Rich Cochrane

1	b 2	2	b 3	3	4	b 5	5	b6	6	b7	7			
1	0	1	0	1	1	0	1	0	1	0	1	Major (Ionian)	<u>~</u>	
1	1	0	1	0	1	1	0	1	0	1	0	Locrian	~	
0	1	1	0	1	0	1	1	0	1	0	1		þ7	
1	0	1	1	0	1	0	1	1	0	1	0	Aeolian	9	
0	1	0	1	1	0	1	0	1	1	0	1		99	
1	0	1	0	1	1	0	1	0	1	1	0	Mixolydian	ro	
0	1	0	1	0	1	1	0	1	0	1	1		\mathfrak{S}	
1	0	1	0	1	0	1	1	0	1	0	1	Lydian	က	
1	1	0	1	0	1	0	1	1	0	1	0	Phrygian).	
0	1	1	0	1	0	1	0	1	1	0	1		\sim	
1	0	1	1	0	1	0	1	0	1	1	0	Dorian	[b2	
0	1	0	1	1	0	1	0	1	0	1	1			
				Φ	Ф		Φ (b		Ф	Γ	ΦΙΧΙΙ ΧΦΦ	 	<u> </u>

Hypermodes

A Practical Guide

Rich Cochrane Hypermodes A Practical Guide

BIG NOISE PUBLISHING

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Part I Fundamentals

Introduction: The Hypermode Concept

Musical Applications

Here's a common idea for playing on a major seventh (Δ) chord: play the minor pentatonic a semitone below it. So, if you have $C\Delta$ to play on, you could play B minor pentatonic. Relative to the C root of the harmony, this gives us the notes 2, 3, $\sharp 4$, 6 and 7; five of the seven notes of the Lydian mode. In fact, it's the same as Lydian with two notes missed out, the root and fifth, which are arguably the least interesting notes in Lydian anyway. You can hear Joe Henderson play this idea on the 'Inner Urge' solo¹; that on its own is a good enough reason to consider this a 'real-life' musical option, not just some by-product of pointy-headed music theory.

However, if you do this you're *not* playing any of the five standard modes of the minor pentatonic scale. The reason is simple: B minor pentatonic contains the notes B, Db, Eb, F \sharp and A; there's no C note, even though C is the root of the chord! In practical terms this is no big deal, but in theoretical terms it is. What the heck *is* this thing?

This means the scales-in-modal-groups approach, while useful, misses out some potentially useful and interesting sounds. That's why my earlier book, *Arpeggio and*

¹See Arthur Lynn White's 2008 dissertation *Joe Henderson: An Analysis of Harmony in Selected Compositions* and *Improvisations*, which you can find as a PDF online.

Scale Resources, needed this supplement: it included all possible modes of the minor pentatonic scale, but that simple idea Henderson played isn't anywhere in there. But if it's good enough for him, it's good enough for us, right?

Theory of Hypermodes

This is the theory part; readers with no interest in it may safely skip it and head straight to 'How To Use This Book'.

I'll assume you're familiar with the ordinary concept of modality as it applies to scales; if not the first chapter of *Arpeggio and Scale Resources* provides a convenient explanation in the same terms as I use here. In that book most scales were presented in modal groups obtained by rotating the interval map of any given member. A way to see this very concretely is to use a binary representation of the scale and perform bit-rotation, and this also reveals the hypermodes. It will go easier with an example.

Here's the binary representation of our old friend the Major Scale:

The '1's match up with the notes of the Major Scale and the '0's match up with notes that the Major Scale doesn't contain. The major scale's modes can now be obtained by the technique known as 'bit rotation' – that is, by repeatedly moving the last digit to the start of the number until we end up back where we started:

1	$\flat 2$	2	b 3	3	4	b 5	5	b 6	6	b 7	7	
1	0	1	0	1	1	0	1	0	1	0	1	Major (Ionian)
1	1	0	1	0	1	1	0	1	0	1	0	Locrian
0	1	1	0	1	0	1	1	0	1	0	1	
1	0	1	1	0	1	0	1	1	0	1	0	Aeolian
0	1	0	1	1	0	1	0	1	1	0	1	
1	0	1	0	1	1	0	1	0	1	1	0	Mixolydian
0	1	0	1	0	1	1	0	1	0	1	1	
1	0	1	0	1	0	1	1	0	1	0	1	Lydian
1	1	0	1	0	1	0	1	1	0	1	0	Phrygian
0	1	1	0	1	0	1	0	1	1	0	1	
1	0	1	1	0	1	0	1	0	1	1	0	Dorian
0	1	0	1	1	0	1	0	1	0	1	1	

To get from the first line to the second (Ionian to Locrian), for example, we took the '1' from the end of the Ionian row and put it at the start, then shifted all the numbers along one. This accounts for the diagonal lines of '0's and '1's that go from the upper left to the lower right.

This process produced twelve different rows, but only seven modes, which are the ones with a '1' in the leftmost column. These are the ones that contain a root. Usually the other five rows are thrown away, as a sort of byproduct. Those rows are what I call the hypermodes, and are the subject of this book:

1	$\flat 2$	2	b 3	3	4	b 5	5	b 6	6	b7	7	
0	1	1	0	1	0	1	1	0	1	0	1	_
0	1	0	1	1	0	1	0	1	1	0	1	
0	1	0	1	0	1	1	0	1	0	1	1	
0	1	1	0	1	0	1	0	1	1	0	1	
0	1	0	1	1	0	1	0	1	0	1	1	

Formally, a *hypermode* may be represented as a set containing two things: a single pitch class designated the 'root note' and a non-empty set of at most eleven pitch classes that does not include the root note. Here's an example:

$$\{D, \{F, A, C, E\}\}$$

This is the set containing the pitch class 'D' plus the $F\Delta$ arpeggio². This is effectively a way of saying 'play the $F\Delta$ arpeggio in a context where D is the root of the harmony'. Note that we do not play the note 'D', but for the effect to work the listener must hear D as the root note. We'll assume that the harmony is being stated by another instrument (say, bass or piano). If the piano is playing a Dm7 chord, playing $F\Delta$ over it is a simple and fairly common idea, yet theoretically it's hard for a scale theorist to describe what's going on because the root note appears to be absent.

This makes a hypermode completely different from an ordinary scale from a theoretical perspective, although this is one of those cases where theory and practice seem to be at odds. For example, many players think nothing of superimposing the $F\Delta$ arpeggio on a Dm7 chord. They would also, perhaps, consider superimposing $B\flat\Delta$ ($\{B\flat,D,F,A\flat\}$). Such a person might be very surprised to learn that one was an exotic structure called a 'hypermode', but the other is just an ordinary four-note scale. Most musicians don't think in such terms: they would most likely just say these are two possible arpeggio superimpositions the provide different sounds.

²Note: I use the word 'scale' to refer to all transposable pitch class structures with root notes. I don't, therefore, make a hard distinction between arpeggios and scales. See the first chapter of *Arpeggio and Scale Resources* for more details.

There is nothing to say you may not play the root note, of course, and you may very well want to resolve to it. The point is to notice that the hypermode's notes lay out in a familiar pattern that's easy to visualise and find even though the resulting sound is quite exotic. If you also play the root note, you will be playing an ordinary scale instead, with one extra note. This approach is generalised by scale spectra³ and provides an easy way to learn certain scales given that you have a knowledge of certain others. For example, the hypermodes of the Common Pentatonic provide you with all the possible hexatonic scales that contain it.

A non-symmetrical n-note scale will have n modes in its group and 12 - n hypermodes. That means smaller structures have more hypermodes than larger ones. In tonal contexts hypermodes tend to become progressively more dissonant as the number of notes they contain increases, so the smaller structures will tend to be more useful. It is gratifying, then, that the more useful they are likely to be, the more there are. As always, however, your ears will be the best judge of what sounds good.

In fact, Arpeggio and Scale Resources includes hypermodal applications of all of the the three- and four-note scales. These are common enough, especially in jazz, that leaving them out would have looked strange. Due to space constraints, however, I didn't include hypermodes of scales with five or more notes. That gap is filled by this book.

How To Use This Book

This book is organised in chapters that exactly match those of *Arpeggio and Scale Resources*, except that some chapters have been omitted since they do not have 'missing' hypermodes. Hence cross-referencing should be done by chapter name, not number. Every scale in the previous book is represented in this book.

Fingering diagrams here differ slightly from those in the earlier book. Here's an example fingering of the Common Major Pentatonic's 57 Hypermode (the one Joe Henderson uses on 'Inner Urge'):



The white circles indicate notes that should be played and the cross indicates a

³See my book *Spectral Analysis of Scales*. There's a one-to-one correspondence between an n-note hypermode and an element of the n-spectrum of an n+1-note scale. For example, the common pentatonic is an element of the 5-spectrum of the hexatonic you get by adding the root note to it in the prescribed way.

note that should *not* be played. In this book the cross always represents the root. Hence, if you wish to play this hypermode on a $C\Delta$ chord, position the pattern so that the cross falls on an 'C' note in the fingerboard, then play the white notes only (hopefully you recognise that these fall into a very familiar shape!).

I gave this book the subtiitle 'a practical approach' because I think this visual way of thinking about hypermodes is the most usable one for guitar players. It's much more practical, in my view, than trying to think of displacing a scale by a certain interval. Slipping down by a semitone is easy enough, but even only slightly more complicated 'calculations' can quickly go wrong in the heat of the moment. What's more, coupled with CAGED (or equivalent), the visual approach makes the hypermode's relationship to the underlying chord tones very clear, which can be especially important when dealing with dissonant material. Being able to 'just see' patterns instantly is a great advantage we guitarists have over many other instruments, and we should use it.

Alongside the name of the hypermode I give the spelling of the notes it contains and then, where possible, one or more suggestions for harmonic situations in which I think it might work. For example, the 'Harmonic Minor 3 Hypermode' is the Harmonic Minor scale with the root taken to be the major third (3). To be concrete, if we're given a chord rooted on E we could choose the C Harmonic Minor, since E is the major third of C (perhaps now the advantages of the visual approach are becoming clearer – nobody should have to think like that when making music!). The spelling of the notes relative to E is $\flat 2, \flat 3, 3, 5, \flat 6, \flat 7, 7$. I suggest that this might work over either a I7 or I Δ chord, i.e., E7 or E Δ . These are only suggestions; you may not like them, and you might find others more interesting or appealing. Most of this is pretty much uncharted musical territory, so it's up to you to map it out. Your ears as the only reliable guide in this, and my suggestions should be put aside if they don't work out for you.

You may also find familiar shapes becoming unfamiliar in these new harmonic settings. Ways of playing these scales you already know become unsuccessful and must be adapted or completely changed; even if the hypermode itself doesn't make its way into your playing, practicing with it may do more than open up your ears—it may encourage you to find melodies you might never have found otherwise.

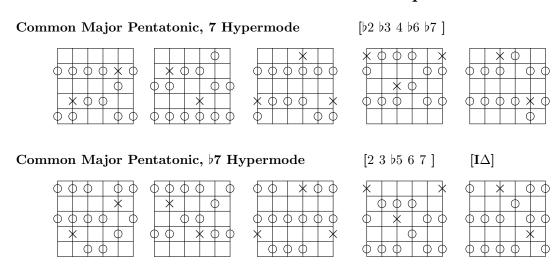
Those who aren't familiar with *Scale and Arpeggio Resources* might find my treatment of hexatonics particularly opaque. If so you should at least look through the introduction to that section of the earlier book to explain all those binary numbers, and terms like 'coscale' and 'reflection'. Or you can ignore all that and just go hunting for sounds you enjoy.

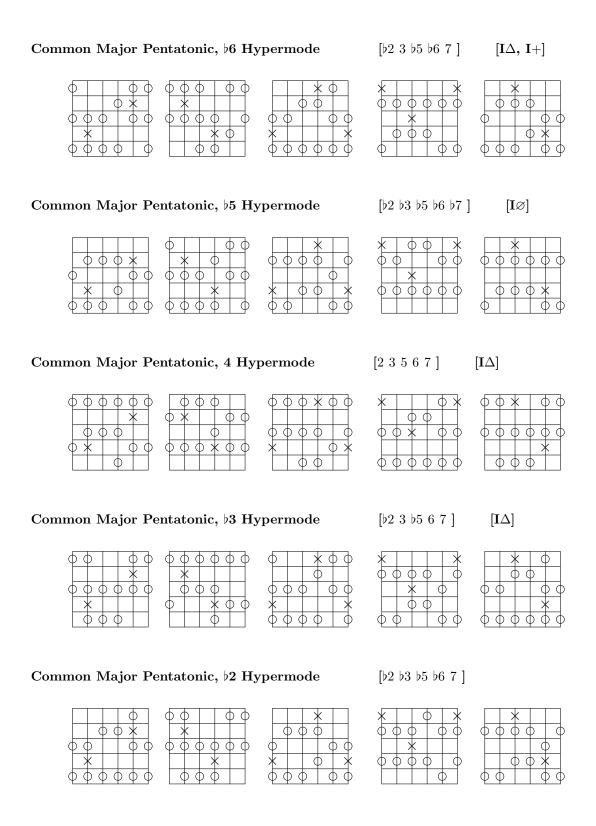
Like my previous books, this one basically compiles a huge quantity of possibilities, far more than I expect anyone could or should try to master in a lifetime. As when learning ordinary scales I strongly recommend taking them one at a time and really internalising them. They're mostly very dissonant; learn to sing the notes, find patterns within them and always work on them with something playing the sound of the root of the harmony or, even better, a full chord you're trying to apply the sound to. There are many electronic options for this these days, including cheap and free phone apps, which will play a chord tirelessly for hours while you acclimatise your ears to a new sound and develop your own vocabulary for soloing. Only this slow, methodical 'processing' will transform a random-seeming collection of notes into something you can hear and use in a real-life musical setting, which is the only meaningful goal of all this.

The Commonest Scales

This chapter will probably be the most useful to most readers, since it illustrates the hypermodes of scales you most likely already know. I would always recommend learning a scale and its modes before exploring the hypermodes, since these require a bit more thought to apply, and are generally more dissonant. Having the sound of the scale thoroughly internalised is an important step towards learning to use the hypermodes successfully.

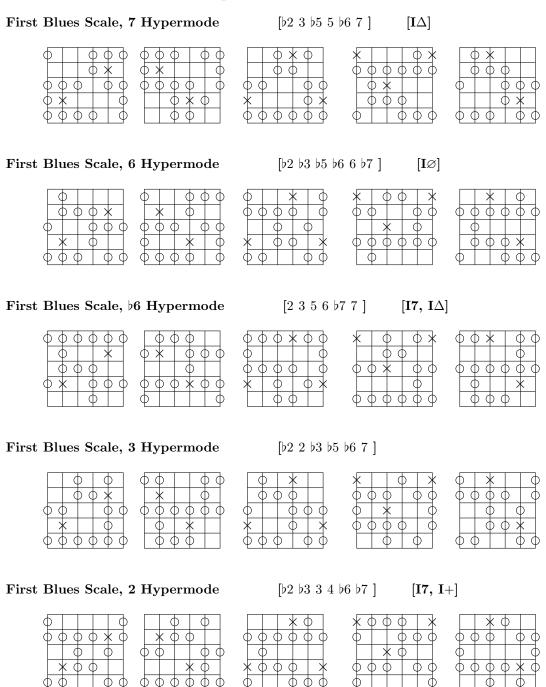
2.1 The Common Pentatonic Scale Group

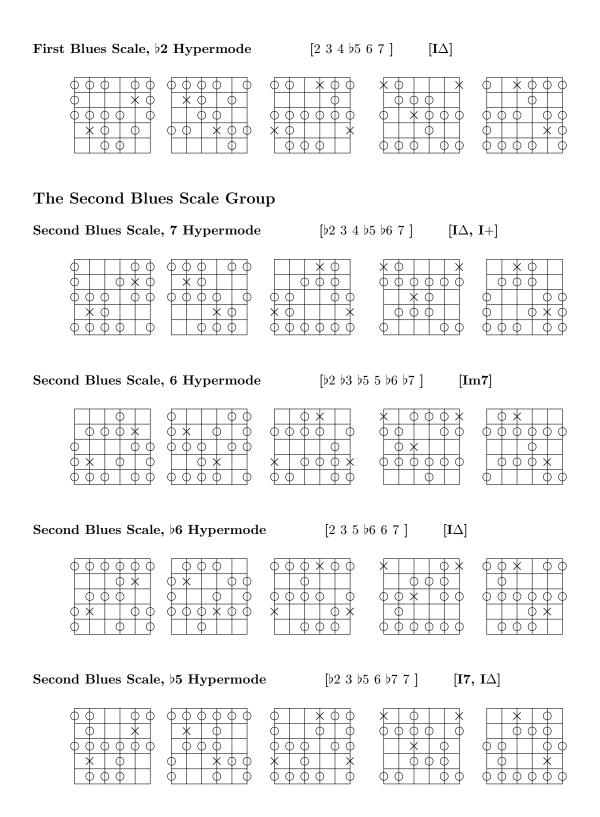




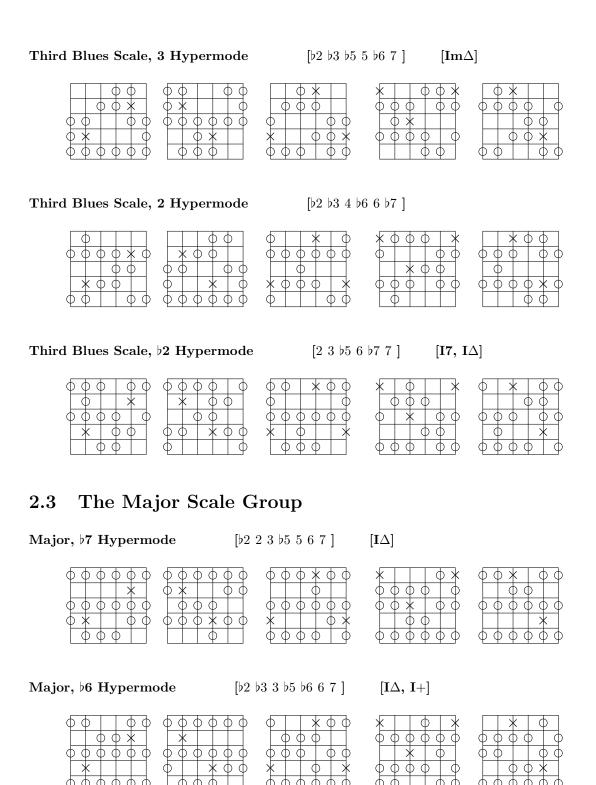
2.2 The Blues Scales

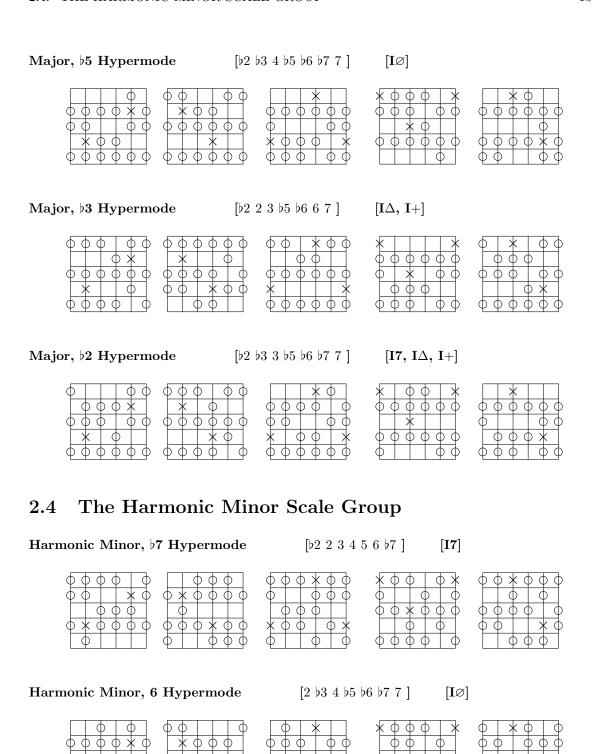
The First Blues Scale Group

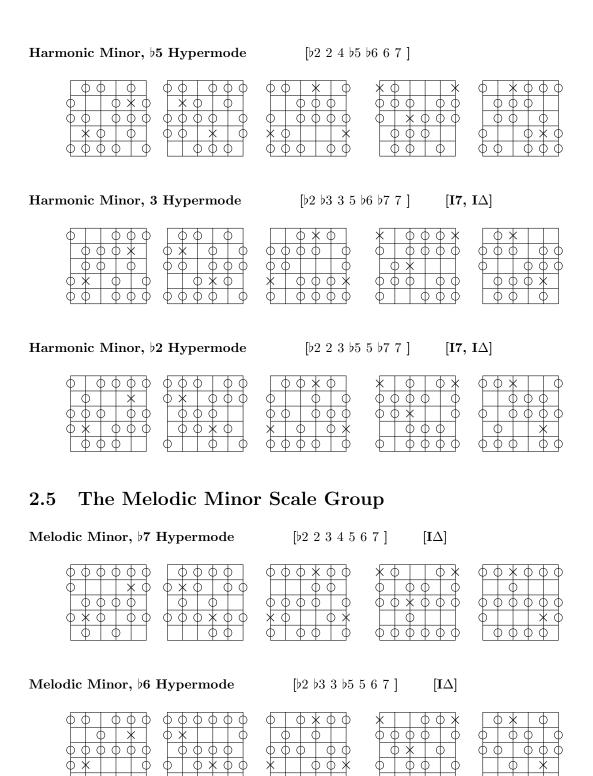


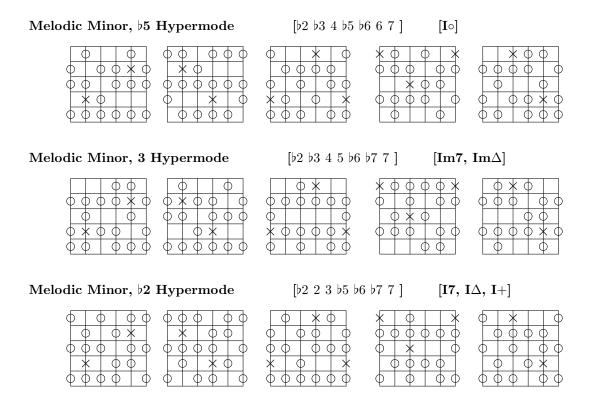


Second Blues Scale, 2 Hypermode [b2 2 b3 4 b6 b7] Ф Ф φφ Second Blues Scale, \$\dagger\$2 Hypermode $[\mathbf{I}\Delta]$ φ ффф ΦΦ 0 0 0 0 The Third Blues Scale Group Third Blues Scale, 6 Hypermode [b2 2 b3 b5 b6 b7] $[\mathbf{I}\varnothing]$ ΦΦ φ фф Third Blues Scale, \$6 Hypermode [2 \(\beta \) 3 3 5 6 7] $[\mathbf{I}\Delta]$ фф 0000 Third Blues Scale, 5 Hypermode [b2 3 4 b5 6 7] $[\mathbf{I}\Delta]$ ΦФ \star ϕ









Part II Advanced Resources

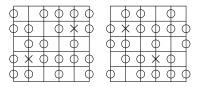
3

The Symmetrical Scales

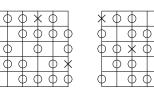
Symmetrical scales remain, in a sense, symmetrical when applied hypermodally. In particular, their 'hypermodal groups' are always smaller than the expected value of 12 - n, where n is the number of notes in the scale.

3.1 The Whole-Half Scale Group

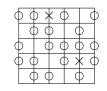
Whole-Half, \$7 Hypermode



[b2 2 3 4 5 b6 b7 7]

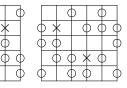


[I7, I Δ]

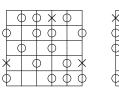


3.2 The $4^{\min} + 7^{\min}$ Scale Group

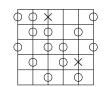
 $4^{\min} + 7^{\min}, \flat 7$ Hypermode

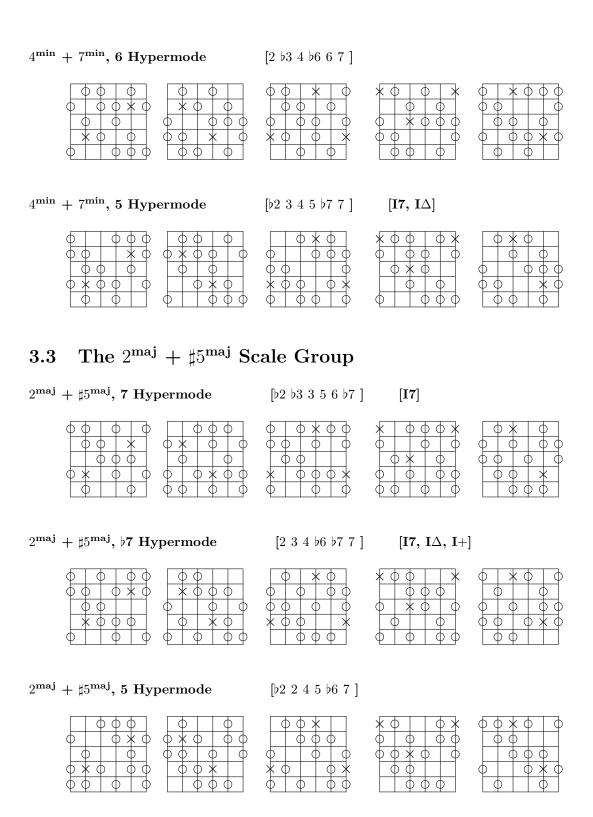


[b2 2 3 5 b6 b7]

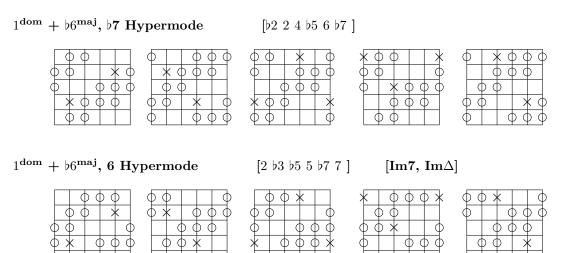


[I7]

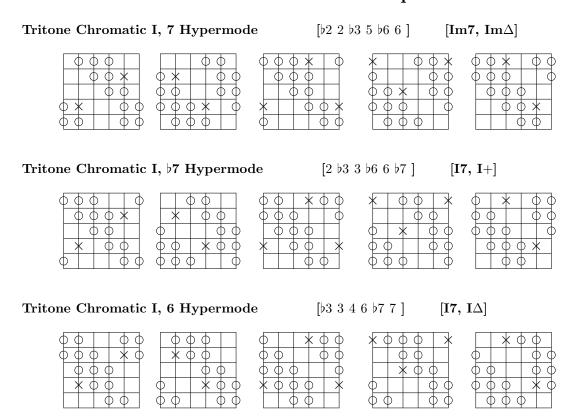




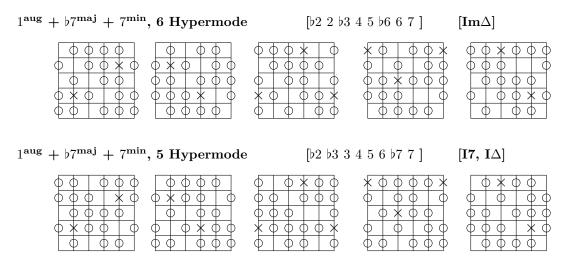
3.4 The $1^{\text{dom}} + b6^{\text{maj}}$ Scale Group



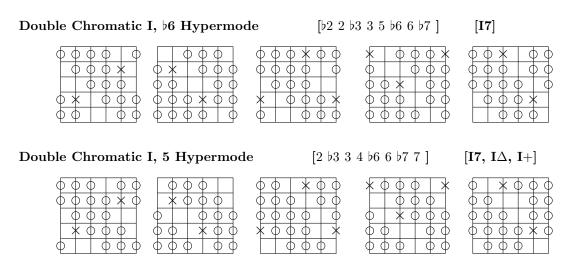
3.5 The Tritone Chromatic Scale Group



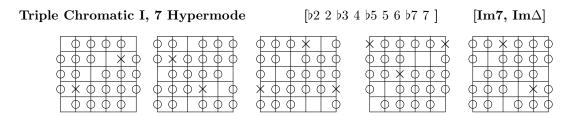
3.6 The $1^{\text{aug}} + \flat 7^{\text{maj}} + 7^{\text{min}}$ Scale Group



3.7 The Double Chromatic Scale



3.8 The Triple Chromatic Scale



3.9 The Tritone Coscale

Tritone Coscale I, 5 Hypermode	[62 2 63 3 4 5 66 6 67 7]	$[\mathbf{I7},\ \mathbf{I}\Delta]$
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

4

Pentatonics With Small Intervals

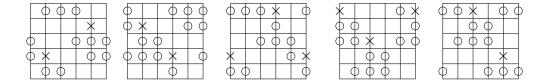
This book covers hypermodes that have at least five notes. The fewer notes a scale has, the more 'space' there is for the root, and so the more consonant or 'inside' the resulting sounds can be (though they can still be highly dissonant, too). As in *Scale and Arpeggio Resources*, we split the pentatonics into those without large intervals (this chapter) and those with (the next). However, there it was suggested that the former group is more likely to find musical applications than the latter, since their notes are spread more evenly. Here things are reversed; wider intervals give more space, and so you'll find some of the more consonant sounds in the next chapter.

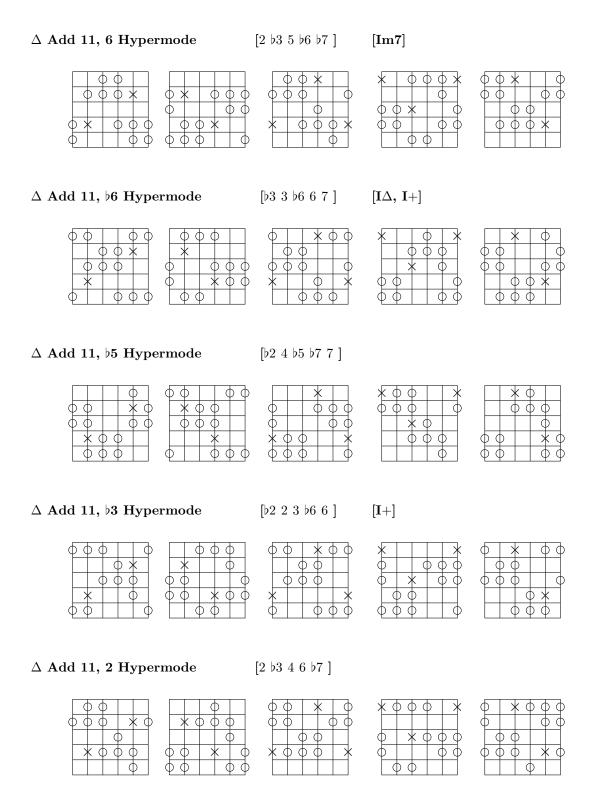
4.1 Five-Note Arpeggios

4.1.1 The \triangle Add 11 Scale Group

 \triangle Add 11, \flat 7 Hypermode

[b2 2 b5 5 6]

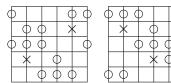


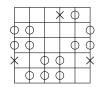


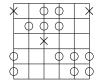
 Δ Add 11, \flat 2 Hypermode

[b3 3 b5 b7 7]

[I7, I Δ]









4.1.2 The Kumoi Scale Group

Kumoi, 7 Hypermode

[b2 2 b5 5 7]











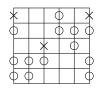
Kumoi, 6 Hypermode

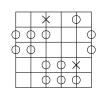
 $[b2\ b3\ 3\ b6\ 6\]$ [I+]











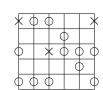
Kumoi, $\flat 6$ Hypermode

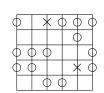
[2 3 4 6 b7] [**I7**]











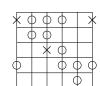
Kumoi, 5 Hypermode

[b3 4 b5 b7 7]

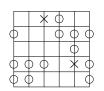




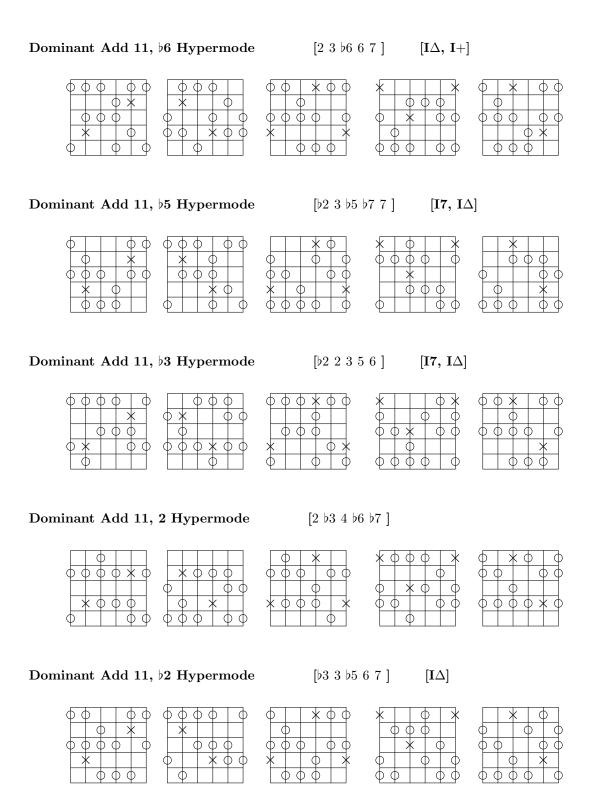




 $[\mathbf{I}\varnothing]$



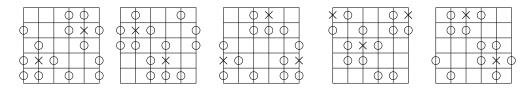
[b2 2 b5 b6 6] Kumoi, 3 Hypermode $\phi \phi \phi$ Ф [2 \(\beta \) 5 6 \(\beta \)] Kumoi, 3 Hypermode [Im7]ΦΦΦ $\phi \phi \phi$ φ фф ффф Kumoi, 2 Hypermode [b3 3 b6 b7 7] $[\mathbf{I7},\ \mathbf{I}\Delta,\ \mathbf{I}+]$ The Dominant Add 11 Scale Group Dominant Add 11, 7 Hypermode [b2 4 b5 b6 7] $\phi \phi \phi$ Dominant Add 11, 6 Hypermode [b2 b3 5 b6 b7] [Im7] $\overline{\phi}$ Φ фф φ ф



4.1.4 The Dominant Add #11 Scale Group

Dominant Add #4, 7 Hypermode

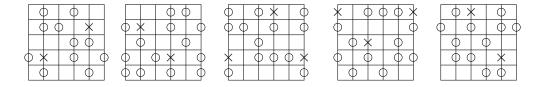
[b2 4 5 b6 7]



Dominant Add #4, 6 Hypermode

[b2 b3 5 6 b7] [Ir

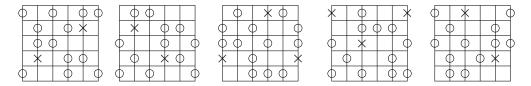
[Im7]



Dominant Add \$4, \(\beta \) Hypermode

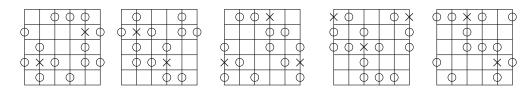
[2 3 \(\beta \) 6 \(\beta 7 \)]

 $[\mathbf{I7},\ \mathbf{I}\Delta,\ \mathbf{I}+]$



Dominant Add #4, 4 Hypermode

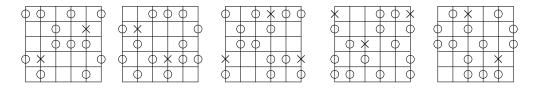
[b2 2 4 5 7]

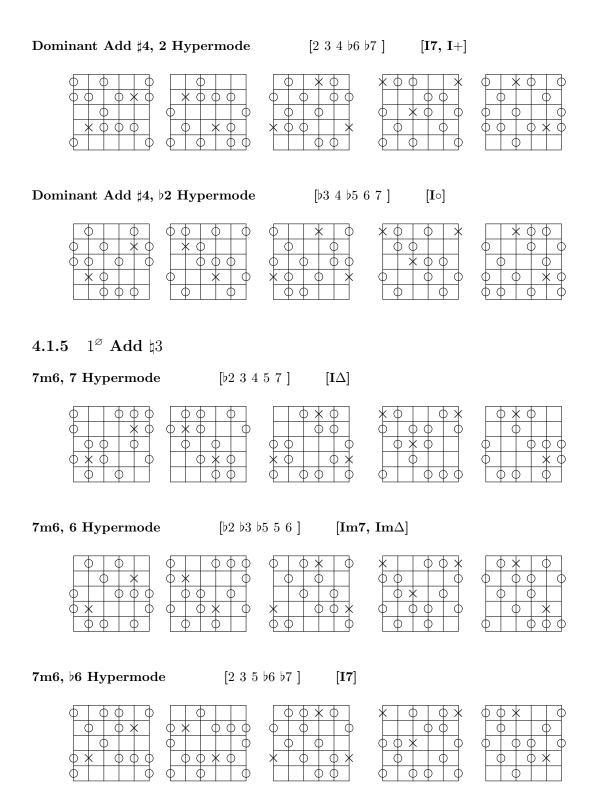


Dominant Add #4, 3 Hypermode

[b2 b3 3 5 6]

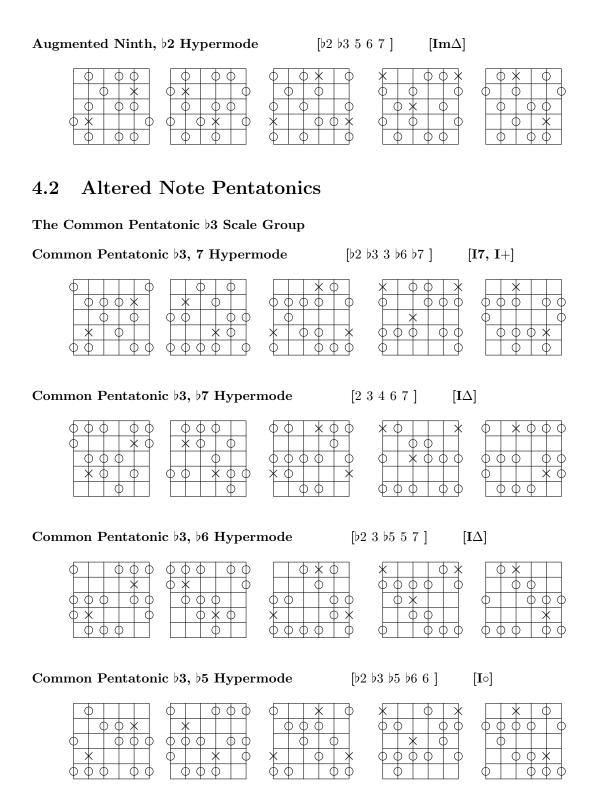
[I7, I Δ]





7m6, 5 Hypermode [b3 4 b6 6 7] 7m6, 4 Hypermode [b2 4 5 b7 7] 7m6, 2 Hypermode [b2 2 3 b6 b7] [I7, I+] 7m6, \$\dagger\$2 Hypermode [2 b3 4 6 7] The Augmented Ninth Scale Group Augmented Ninth, 7 Hypermode [b2 b3 4 6 7] $\overline{\phi}$ фф

Augmented Ninth, 6 Hypermode [b2 b3 4 5 7] $[Im\Delta]$ [\beta2 \beta3 4 5 6] [Im7, Im Δ] Augmented Ninth, 5 Hypermode фф [2 3 b5 b6 b7] Augmented Ninth, 5 Hypermode [**I7**, **I**+] фф ф Augmented Ninth, 4 Hypermode [b3 4 5 6 7] $[Im\Delta]$ $\phi * \phi \phi$ Augmented Ninth, 3 Hypermode [b2 4 5 6 7] ФФ



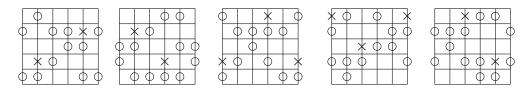
Common Pentatonic 3, 4 Hypermode [2 3 5 6 \(\beta \)] [I7]Common Pentatonic 3, 3 Hypermode [b3 4 b6 b7 7] Φ ФФ $\phi \phi \phi$ Common Pentatonic \$3, \$2 Hypermode [b2 2 b5 b6 7] ΦФ The Common Pentatonic #5 Scale Group Common Pentatonic #5, 7 Hypermode [b2 b3 4 6 b7] Ф Common Pentatonic #5, \$7 Hypermode [2 3 \(\beta \) \(\beta \) 7 7] [I7, I Δ] ΦΦ φ

Common Pentatonic #5, 5 Hypermode [b2 2 4 5 6] ффф Φ ффф Common Pentatonic ♯5, ♭5 Hypermode [2 \(\beta\)3 \(\beta\)5 \(\beta\)6 \(\beta\)7] $[\mathbf{I}\varnothing]$ Common Pentatonic #5, 4 Hypermode [\beta 3 5 6 7] $[\mathbf{I}\Delta]$ ФФ φφ фф $\phi *$ фф ффф Common Pentatonic ♯5, ♭3 Hypermode [b2 4 b5 6 7] Common Pentatonic #5, \$\dagger\$2 Hypermode [b2 b3 5 b6 7] $[Im\Delta]$ $\overline{\phi}$

The Common Pentatonic **b6** Scale Group

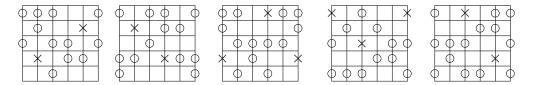
Common Pentatonic \$6, 7 Hypermode

[b2 b3 4 b6 6]



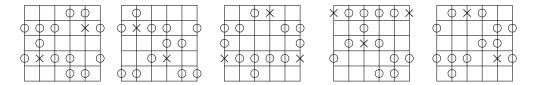
Common Pentatonic \$6,\$7 Hypermode

[2 3 \(\beta 5 6 \(\beta 7 \)] [I7]



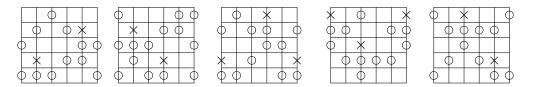
Common Pentatonic \$6, 6 Hypermode

 $[\flat 3 \ 4 \ 5 \ \flat 7 \ 7 \] \qquad [\mathbf{Im7}, \mathbf{Im}\Delta]$



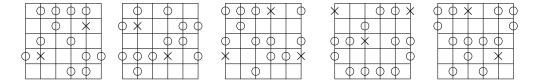
Common Pentatonic \$6, \$5 Hypermode

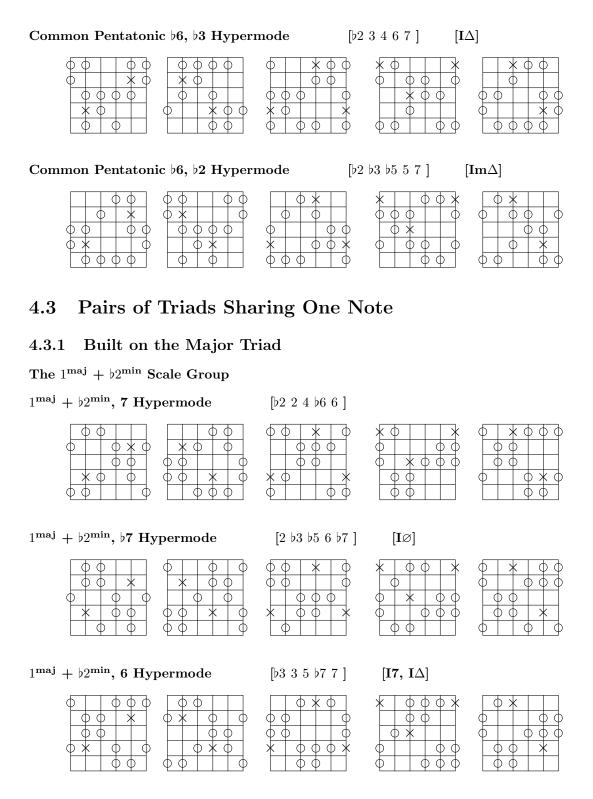
[b2 2 b5 b6 b7]



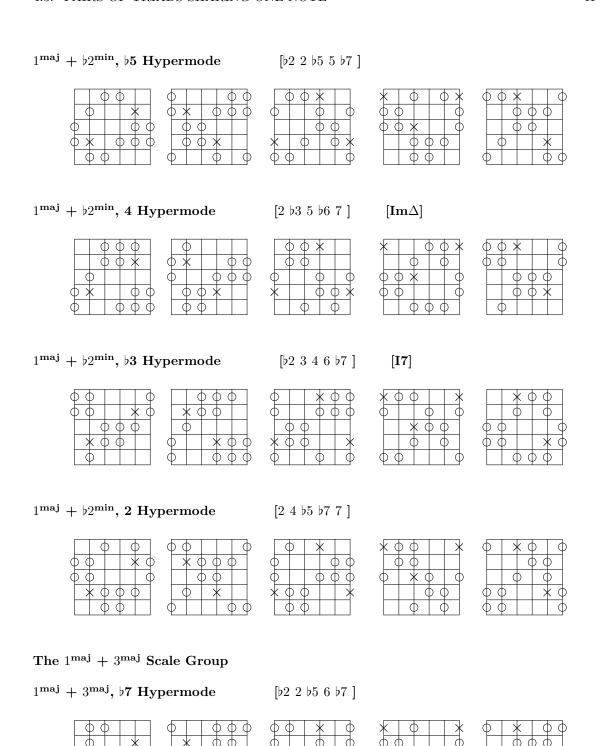
Common Pentatonic >6, 4 Hypermode

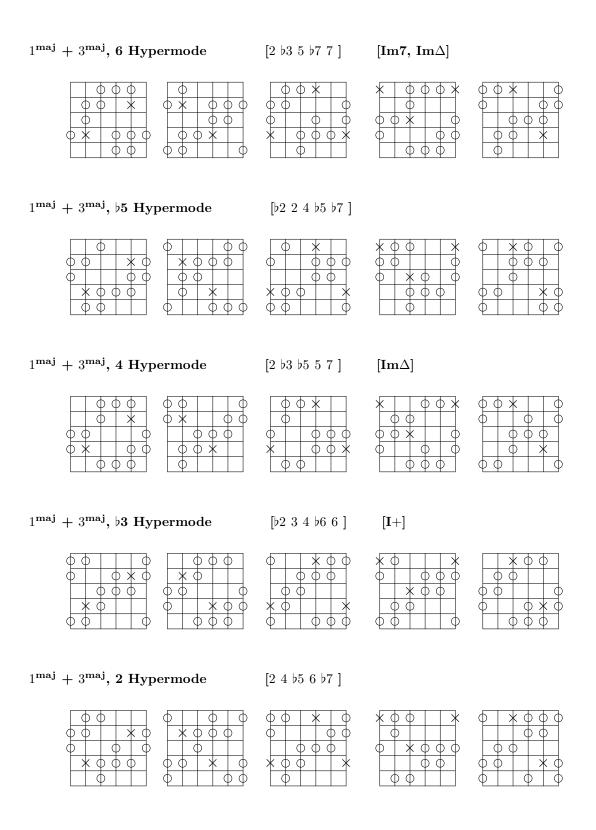
 $[2 \ b3 \ 5 \ 6 \ 7]$ $[Im \Delta]$



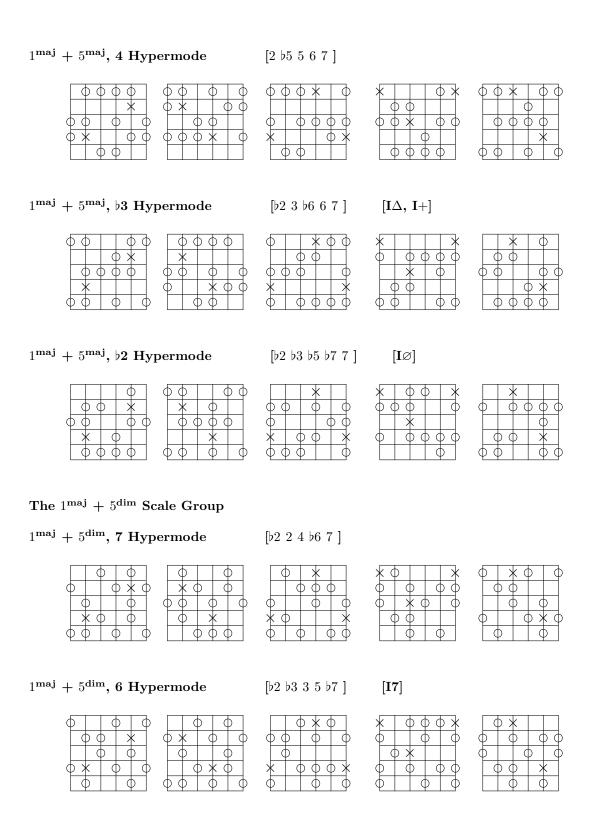


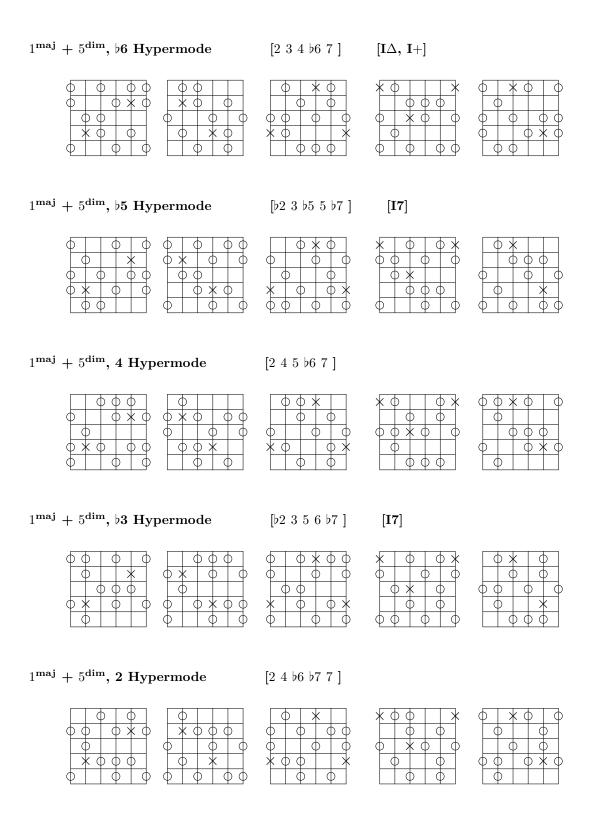
фф



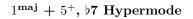


1^{maj} + 3^{maj}, ♭2 Hypermode [b3 b5 5 b7 7] $[\mathrm{Im}7,\ \mathrm{Im}\Delta]$ The $1^{\text{maj}} + 5^{\text{maj}}$ Scale Group 1^{maj} + 5^{maj}, ♭7 Hypermode [b2 2 3 b5 6] ФФ $1^{\text{maj}} + 5^{\text{maj}}$, 6 Hypermode $[2 \ b3 \ 4 \ 5 \ b7]$ [Im7] $1^{\text{maj}} + 5^{\text{maj}}, b6 \text{ Hypermode}$ [b3 3 b5 b6 7] $[\mathbf{I}\Delta,\ \mathbf{I}+]$ $1^{\text{maj}} + 5^{\text{maj}}, \flat 5 \text{ Hypermode}$ [b2 4 b5 b6 b7] 0000

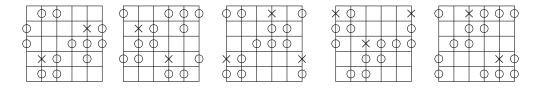




The $1^{\text{maj}} + 5^+$ Scale Group

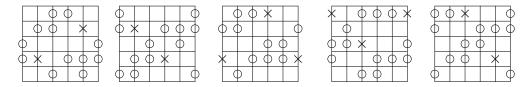


[b2 2 4 b5 6]



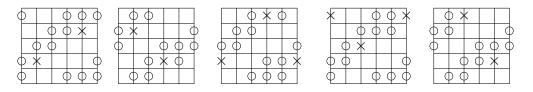
 $1^{\text{maj}} + 5^{+}$, 6 Hypermode [2 \(\beta \)3 \(\beta 5 \)5 7]

[Im7]



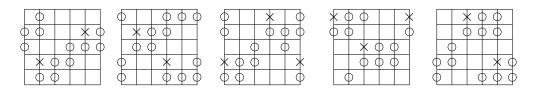
 $1^{\text{maj}} + 5^+, b6 \text{ Hypermode}$ [b3 3 5 b6 7]



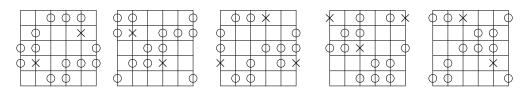


 $1^{\text{maj}} + 5^+, \flat 5 \text{ Hypermode}$

[b2 4 b5 6 b7]

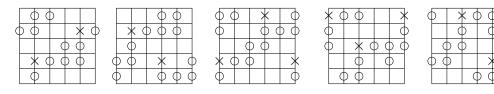


 $1^{\text{maj}} + 5^{+}, 4 \text{ Hypermode}$ [2 \(\beta 5 5 \beta 7 7\)]

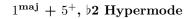


 $1^{\text{maj}} + 5^+$, 2 Hypermode

[b2 2 4 6 b7]



[2 \(\beta \) \(\beta \) \(\beta \) \(7 \)]



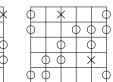
$$[\mathbf{I}\varnothing]$$











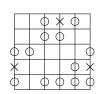
4.3.2 Built on the Minor Triad

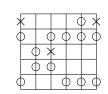
The $1^{\min} + \flat 3^{\min}$ Scale Group

 $1^{\min} + \flat 3^{\min}$, 7 Hypermode [b2 3 5 b6 7] $[\mathbf{I}\Delta]$









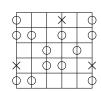


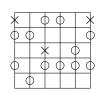
 $1^{\min} + \beta 3^{\min}$, 6 Hypermode

[b2 b3 b5 6 b7] $[\mathbf{I}\varnothing]$











 $1^{\min} + \flat 3^{\min}$, $\flat 6$ Hypermode [2 3 5 $\flat 7$ 7]

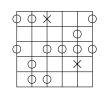
 $[\mathbf{I7},\ \mathbf{I}\Delta]$

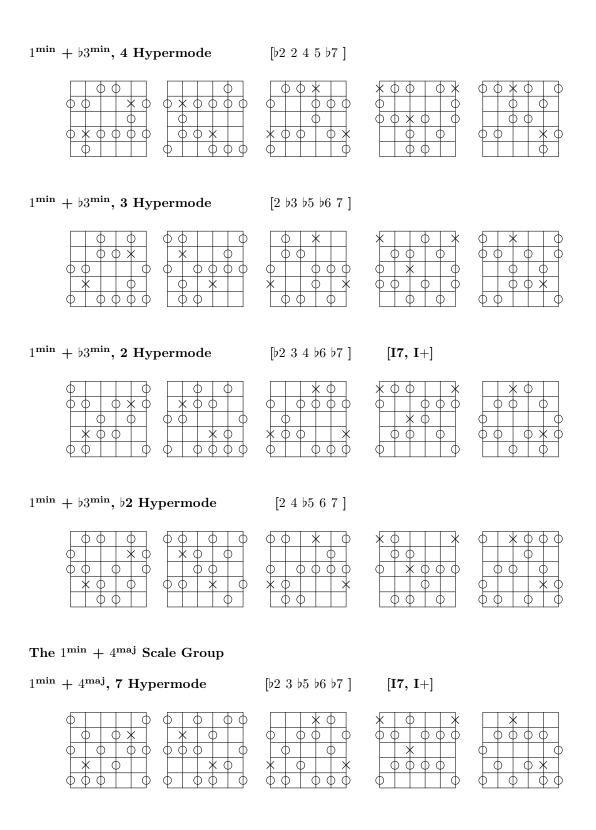




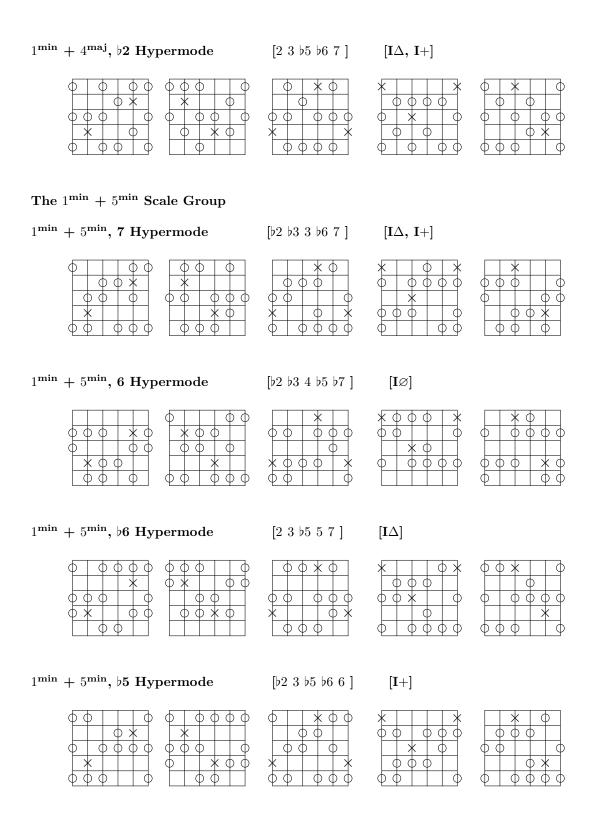


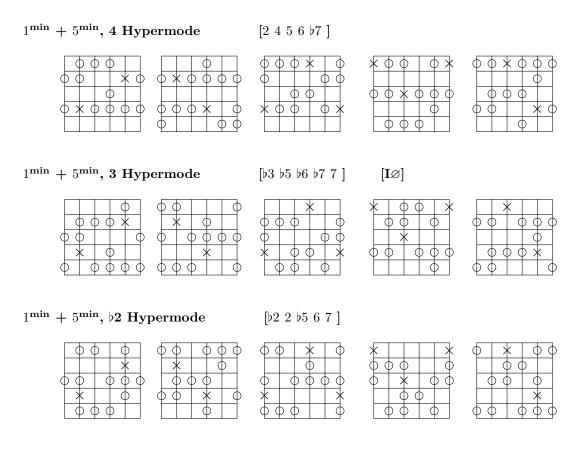






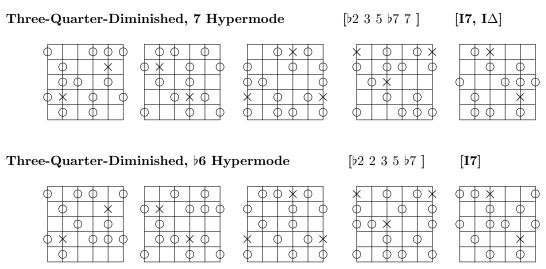
 $1^{\min} + 4^{\max j}, \flat 7 \text{ Hypermode}$ [2 4 5 6 7] 1^{min} + 4^{maj}, ♭6 Hypermode [b2 3 5 6 7] $[\mathbf{I}\Delta]$ 1^{min} + 4^{maj}, ♭5 Hypermode [b2 b3 b5 6 7] $[\mathbf{I} \circ]$ $1^{\min} + 4^{\max j}$, 3 Hypermode [b2 b3 4 b6 7] ффф $1^{\min} + 4^{\max j}$, 2 Hypermode [b2 b3 4 5 b7] [Im7]





4.3.3 Built on the Diminished Triad

${\bf 4.3.4}\quad {\bf The\ Three-Quarter-Diminished\ Scale\ Group}$



Three-Quarter-Diminished, 5 Hypermode [2 \(\beta \) 4 \(\beta \) 7] $\overline{\Phi}$ Three-Quarter-Diminished, 4 Hypermode [b2 3 4 5 b7] [I7]Three-Quarter-Diminished, 3 Hypermode [2 4 \(\beta 5 \) \(\beta 6 7 \)] ΦФ ффф Ф Three-Quarter-Diminished, 2 Hypermode [b2 3 5 b6 b7] [**I7**] Three-Quarter-Diminished, \$\daggerup 2\$ Hypermode [2 4 \(\beta \) 6 6 7] $\times \Phi \Phi \Phi$ ФФ

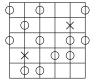
4.3.5 Built on the Augmented Triad

The $1^+ + \sharp 5^{\mathbf{dim}}$ Scale Group

1⁺ + ♯5^{dim}, ♭7 Hypermode

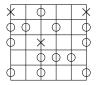
[b2 2 3 b5 b7]

[I7]











1⁺ + \$5^{dim}, 6 Hypermode

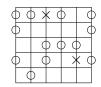
 $[{
m Im}\Delta]$











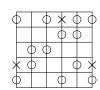
 $1^+ + \sharp 5^{\dim}$, 5 Hypermode

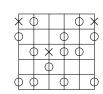
 $[b2\ 3\ 4\ 5\ 6\]$

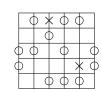
[I7, I Δ]





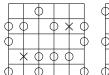




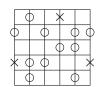


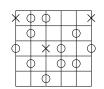
 $1^+ + \sharp 5^{\text{dim}}, \flat 5 \text{ Hypermode}$

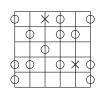
[2 4 \(\beta 5 \) \(\beta 6 \) \(\beta 7 \)]











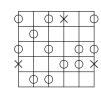
 $1^+ + \sharp 5^{\operatorname{dim}}$, 4 Hypermode

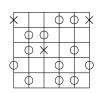
[b3 b5 5 6 7]

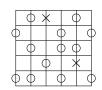
 $[{
m Im}\Delta]$

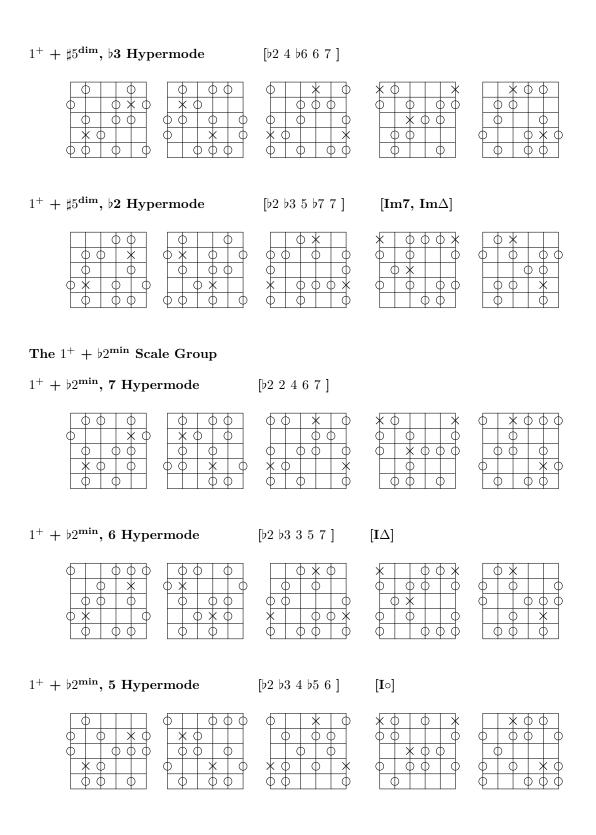


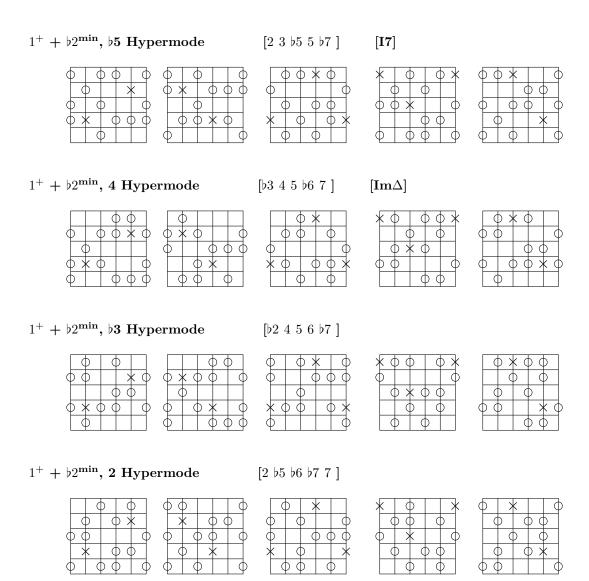








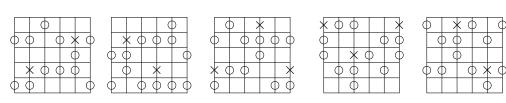


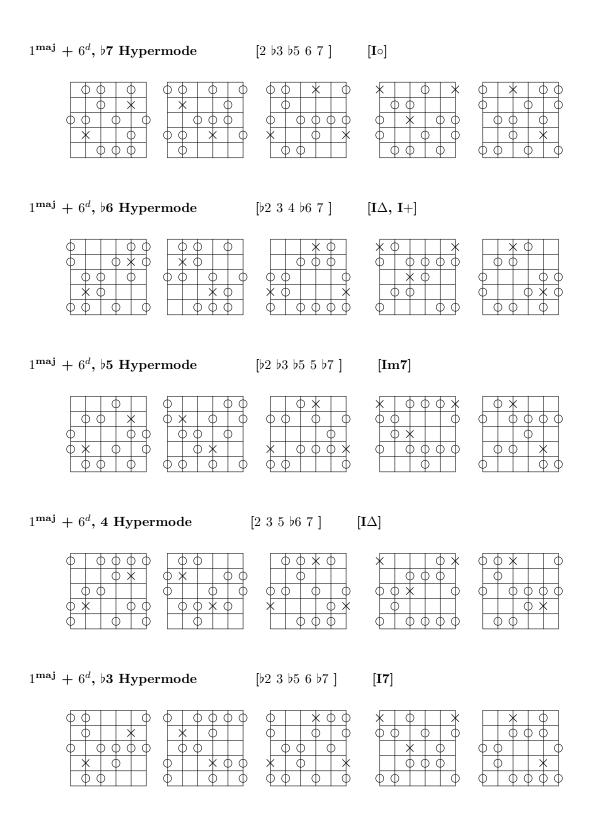


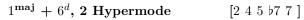
4.3.6 A Triad and a Seventh Sharing Two Notes

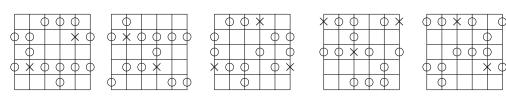
The $1^{\text{maj}} + 6^d$ Scale Group

 $1^{\text{maj}} + 6^d$, 7 Hypermode [\dot 2 \ 2 \ 4 \ \beta 6 \ \beta 7]







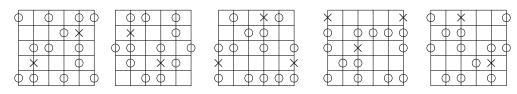


4.3.7 Two Sevenths Sharing Three Notes

The $1^m + \flat 3^d$ Scale Group

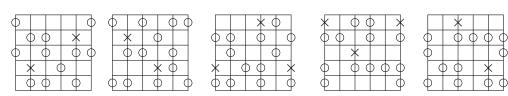
$$1^m + \flat 3^d$$
, 7 Hypermode

$$[\mathbf{I}\Delta,\ \mathbf{I}+]$$



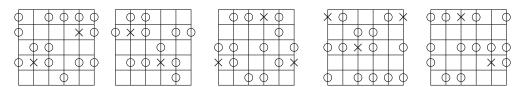
$$1^m + \flat 3^d$$
, 6 Hypermode

[I7]

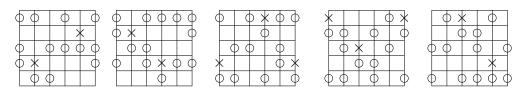


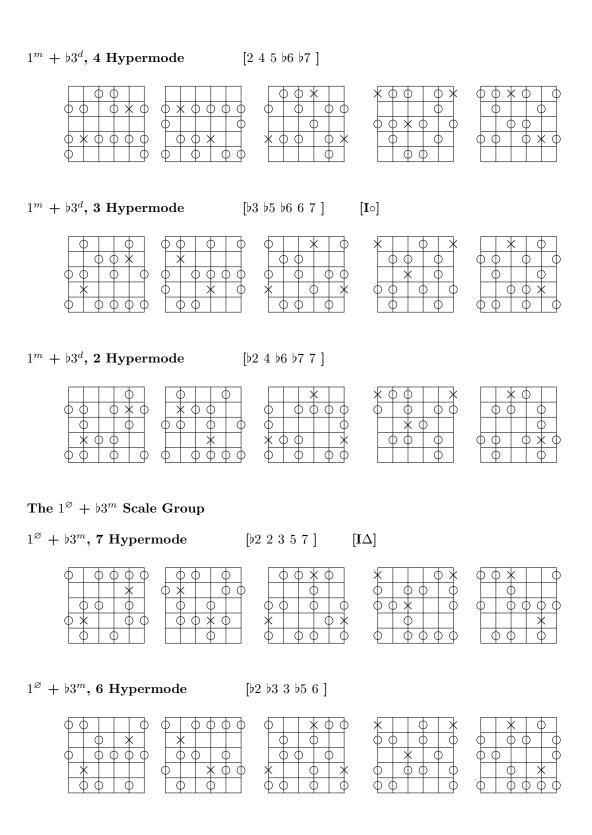
$$1^m + \flat 3^d, \flat 6$$
 Hypermode

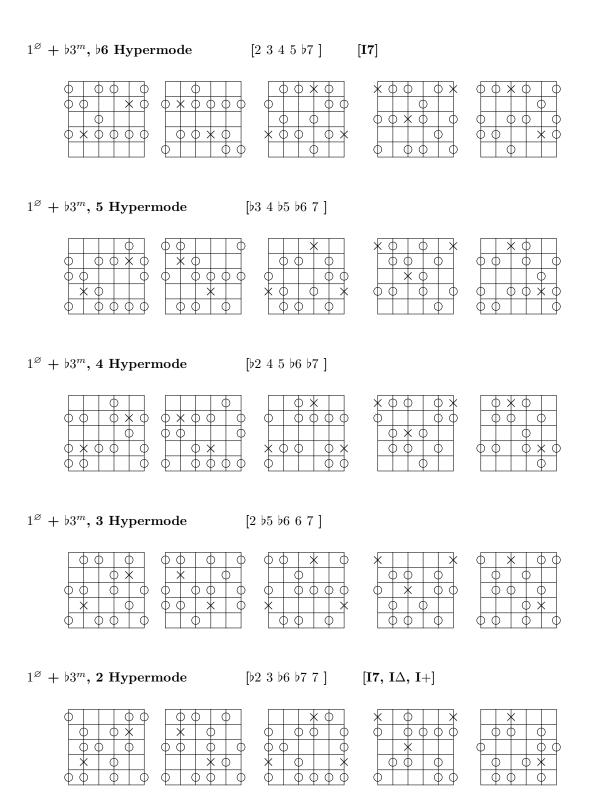
$$[2\ 3\ 4\ 5\ 7\]$$
 $[I\Delta]$



$$1^m + \flat 3^d$$
, $\flat 5$ Hypermode [$\flat 2 \ 3 \ \flat 5 \ 5 \ 6$] [I7, I Δ]

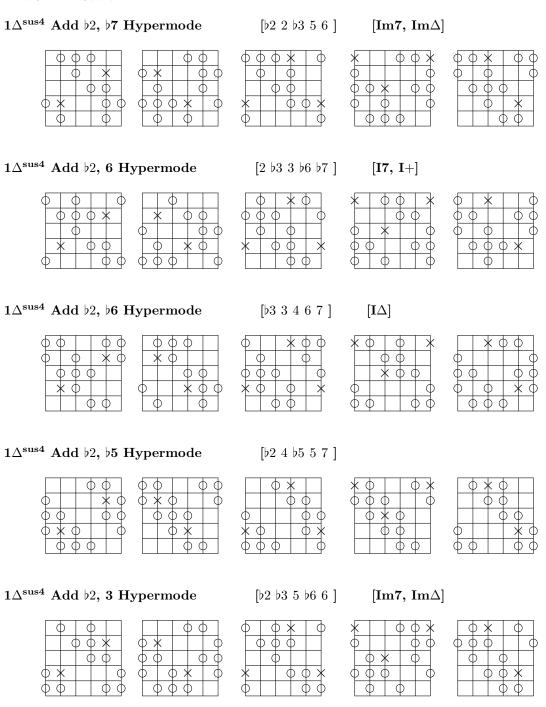




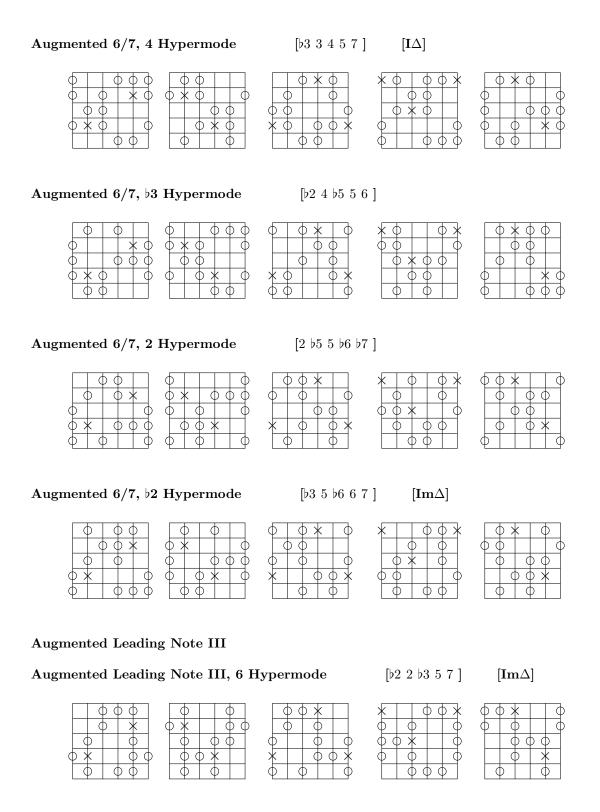


4.4 With Two Consecutive Semitones

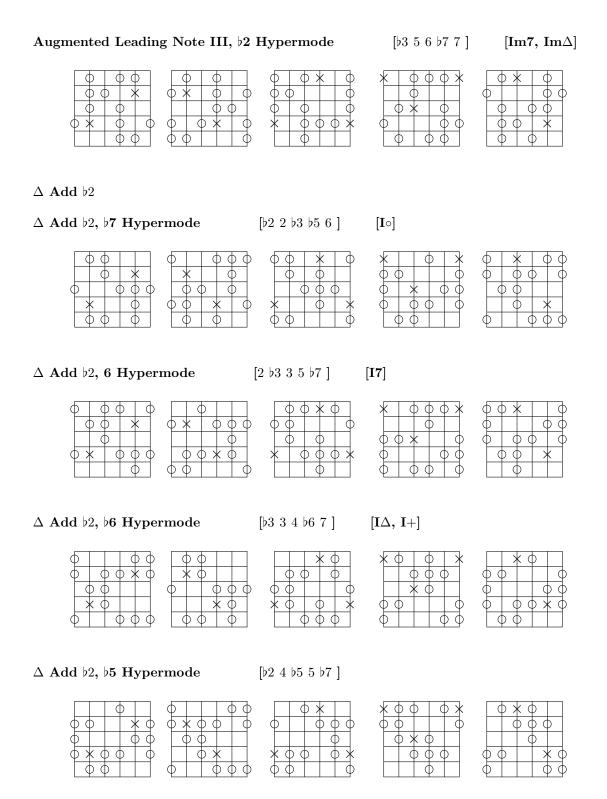
The $7\Delta^{sus4}$ Scale



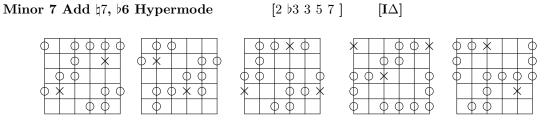
 $1\Delta^{sus4}$ Add $\flat 2$, $\flat 3$ Hypermode $[2\ 3\ b6\ 6\ b7\]$ [I7, I+] $1\Delta^{sus4}$ Add $\flat 2$, 2 Hypermode [b3 4 6 b7 7] Augmented 6/7 Augmented 6/7, 7 Hypermode [b2 4 6 b7 7] [b2 2 b3 4 6] Augmented 6/7, 5 Hypermode Augmented 6/7, 5 Hypermode [2 \(\beta \) 3 3 \(\beta \) 5 \(\beta \)] [I7]



Augmented Leading Note III, 5 Hypermode [b2 b3 3 4 6] Augmented Leading Note III, \$5 Hypermode [2 3 4 \(\beta\)5 \(\beta\)7] [I7]ФФ Φ Augmented Leading Note III, 4 Hypermode [b3 4 b5 5 7] $[Im\Delta]$ <u>фф</u> $\phi * \phi$ Augmented Leading Note III, \$3 Hypermode [b2 4 5 b6 6] **Φ X Φ Φ** Ф * Augmented Leading Note III, 2 Hypermode [2 \(\beta \) \(\beta \) 6 6 6 \(\beta \)] Φ Φ

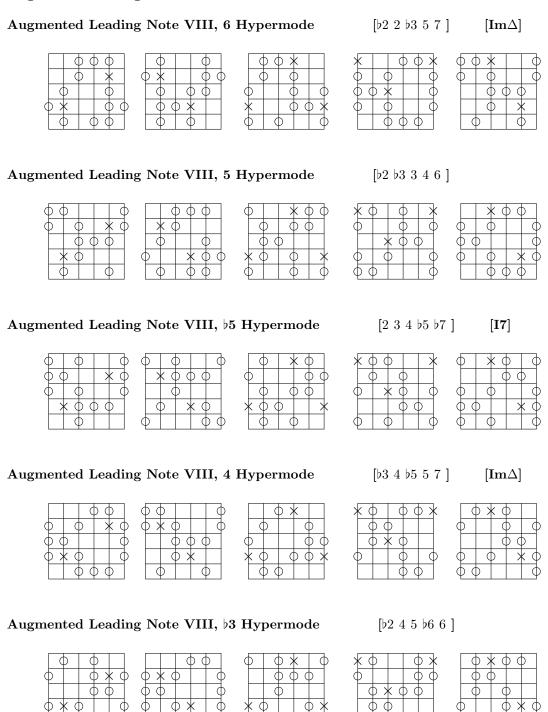


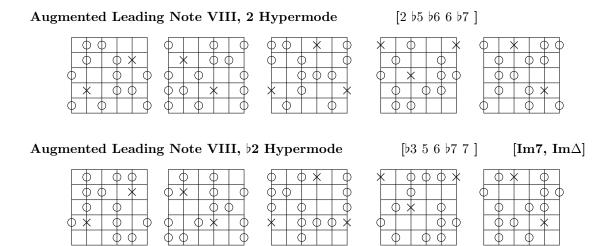
 Δ Add $\flat 2$, 4 Hypermode [2 b5 5 b6 7] ффф ффф [**I7**, **I**+] Δ Add $\flat 2$, $\flat 3$ Hypermode [b2 3 b6 6 b7] $\overline{\phi}$ Δ Add $\flat 2$, 2 Hypermode $[2\ 4\ 6\ b7\ 7\]$ $* \Phi \Phi$ ΦФ Minor 7 Add \$7 Minor 7 Add \(\perp 7\), 6 Hypermode [b2 2 b3 b5 b7] $[\mathbf{I}\varnothing]$ φ ФФ Φ



Minor 7 Add \$7, \$5 Hypermode [b2 3 4 b5 6] Minor 7 Add \$7, 4 Hypermode [2 4 b5 5 b7] φ φφ ФФ Minor 7 Add \$7, 3 Hypermode [b3 b5 5 b6 7] $[Im\Delta]$ $\phi \phi *$ фф Minor 7 Add \$7, 2 Hypermode [b2 4 b6 6 b7] [2 \(\beta \) 6 \(\beta \) 7 7] фф фф

Augmented Leading Note VIII





5

Pentatonics Containing a Large Interval

5.1 With Largest Interval a Fourth

5.1.1 Based on a Major Triad

Major Add 9/#9

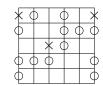
Major Add 9/#9, 7 Hypermode

[b2 b3 3 4 b6]

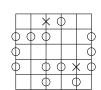








[I+]

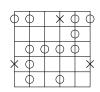


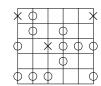
Major Add 9/♯9, ♭7 Hypermode

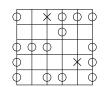
 $[2\ 3\ 4\ b5\ 6\]$

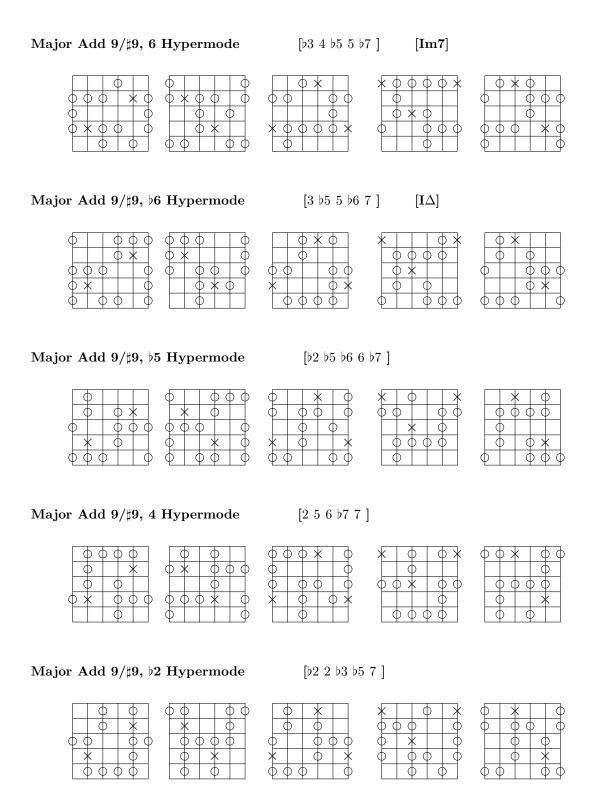








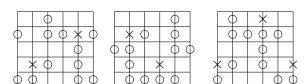


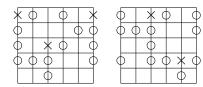


Major Add ♭9/‡9

Major Add $\flat 9/ \natural 9, 7$ Hypermode

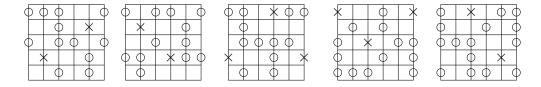
[b2 2 b3 4 b6]





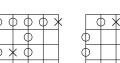
Major Add \$9/\$9, \$7 Hypermode

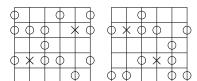
[2 \(\beta \) 3 3 \(\beta \) 6]

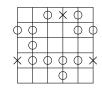


Major Add \(\beta 9 / \beta 9, 6 \) Hypermode

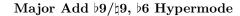
[b3 3 4 5 b7] [**I7**]



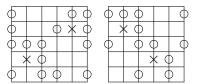




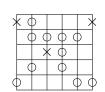




 $[3 \ 4 \ \flat 5 \ \flat 6 \ 7]$ $[\mathbf{I}\Delta, \mathbf{I}+]$



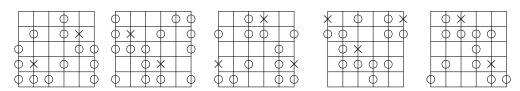


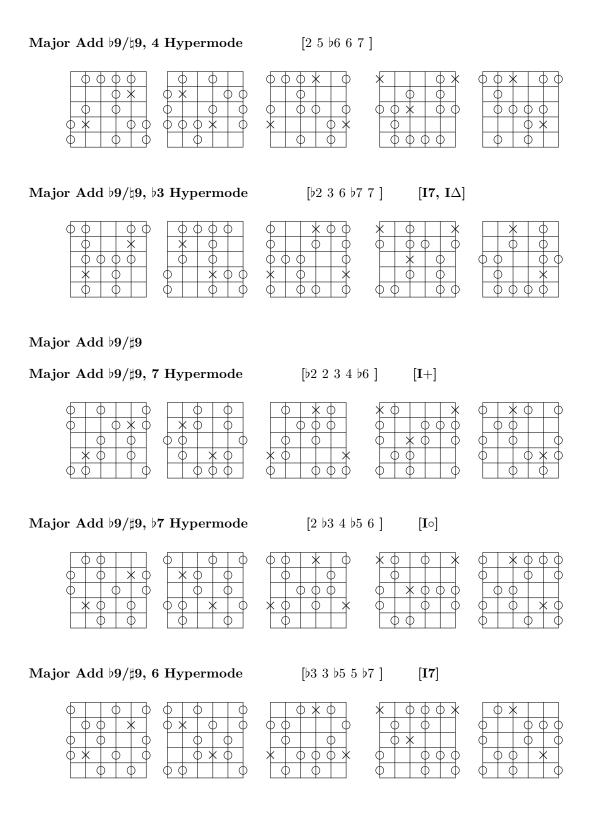




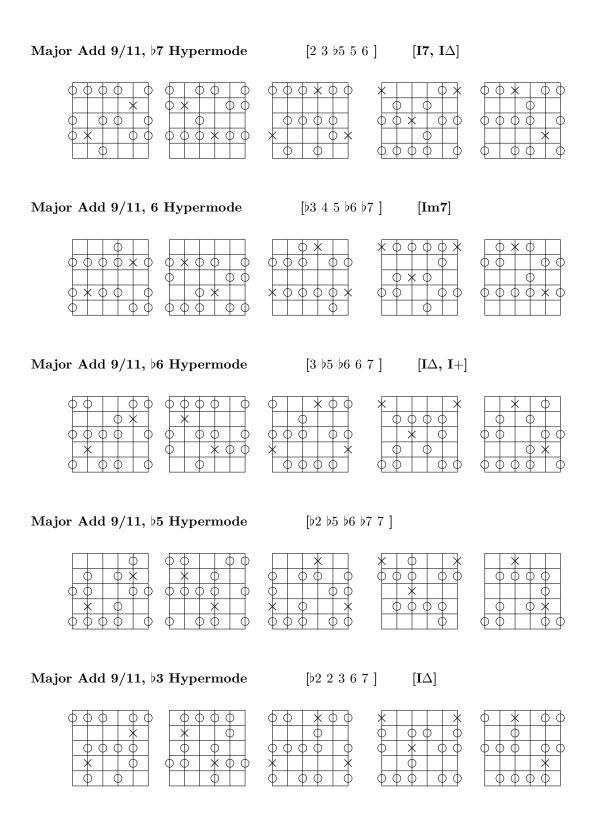
Major Add $\flat 9/ \natural 9, \, \flat 5$ Hypermode

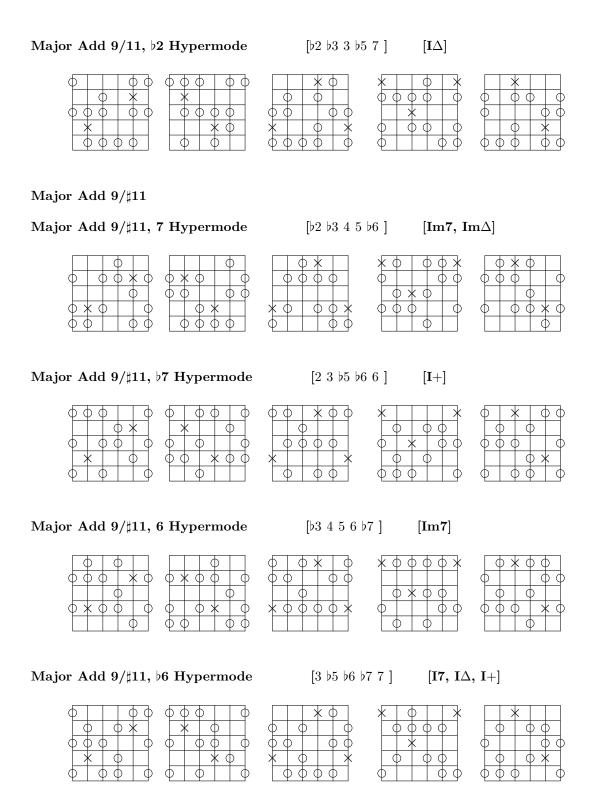
[b2 b5 5 b6 b7]

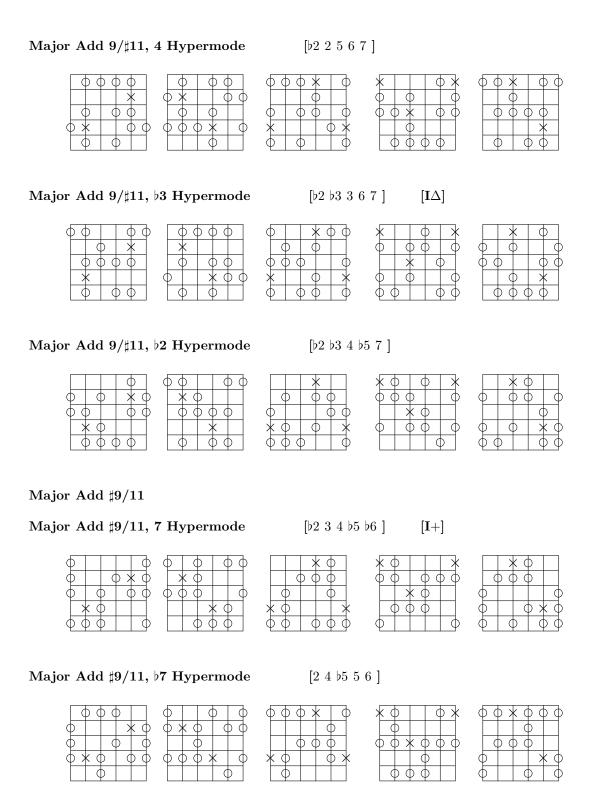


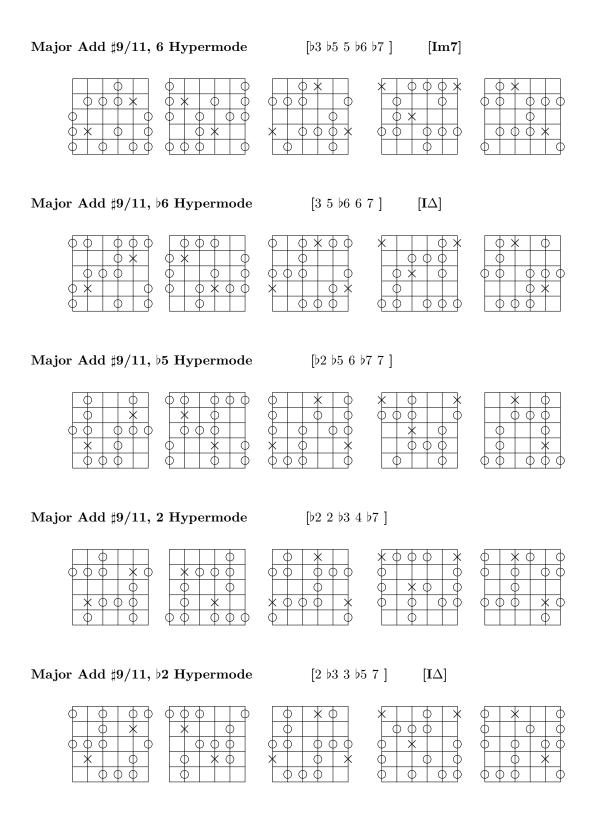


Major Add \$9/\$9, \$6 Hypermode $[3\ 4\ 5\ b6\ 7\]$ $[\mathbf{I}\Delta]$ Major Add 9/\$, 5 Hypermode [b2 b5 5 6 b7] фф φφφ Major Add \(\dagger 9/\pmu 9, 4 \) Hypermode [2 5 \(\beta \) 6 \(\beta 7 \)] фф Major Add ♭9/♯9, 2 Hypermode [b2 2 4 b7 7] *Ф φ Major Add 9/11 Major Add 9/11, 7 Hypermode [b2 b3 4 b5 b6] $\phi \phi \phi \phi$ $\overline{\phi}$ ΦΦ $\overline{\Phi}$ Φ

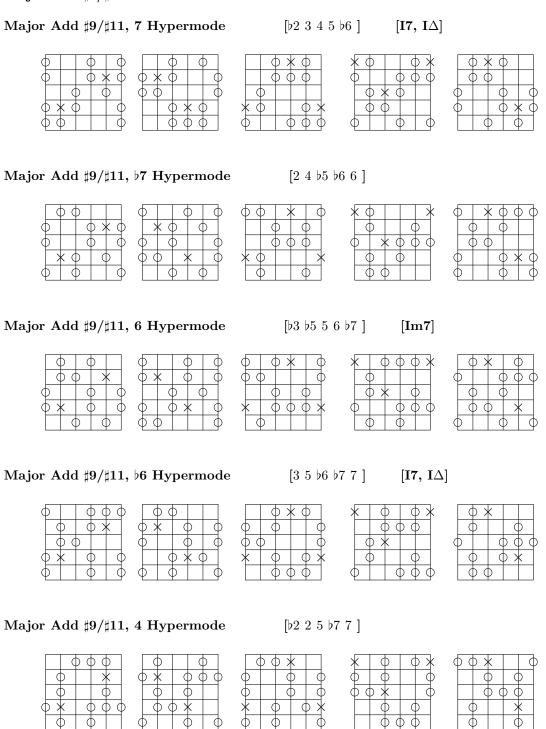




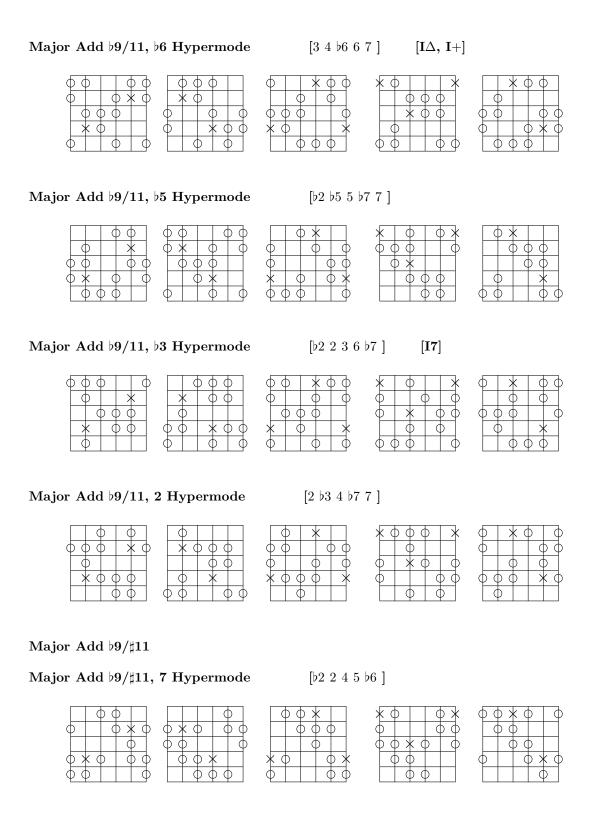


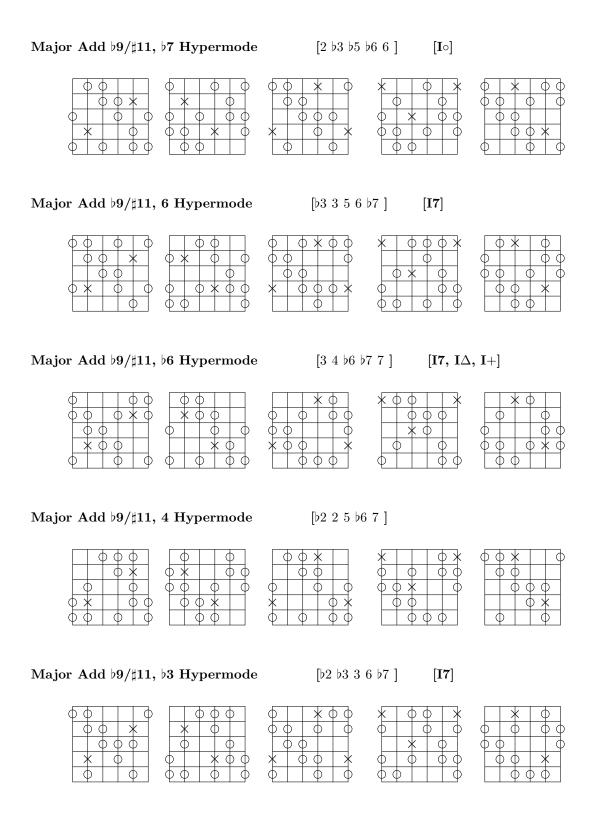


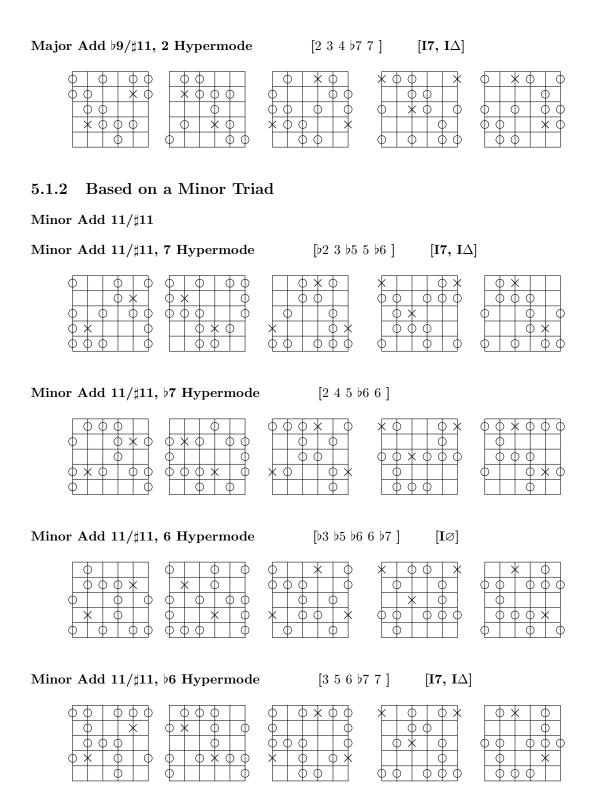
Major Add #9/#11



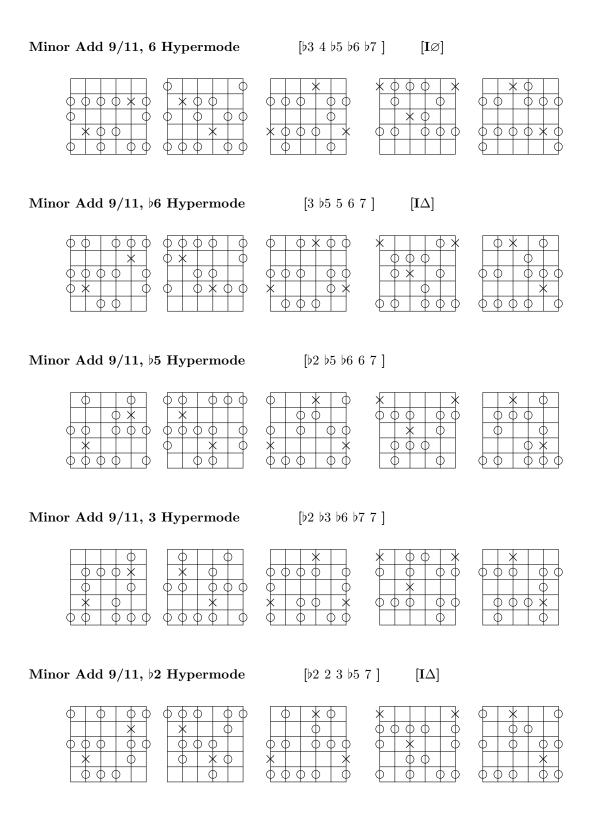
Major Add $\sharp 9/\sharp 11$, 2 Hypermode [b2 2 3 4 b7] [I7] Major Add ♯9/♯11, ♭2 Hypermode [2 \(\beta \)3 4 \(\beta \)5 7] ФФ Major Add ♭9/11 Major Add 9/11, 7 Hypermode [b2 2 4 b5 b6] ффф Major Add \$9/11, \$7 Hypermode [2 \(\beta\)3 \(\beta\)5 5 6] $[{\rm Im}7,\ {\rm Im}\Delta]$ фф Major Add 9/11, 6 Hypermode [b3 3 5 b6 b7] [I7]



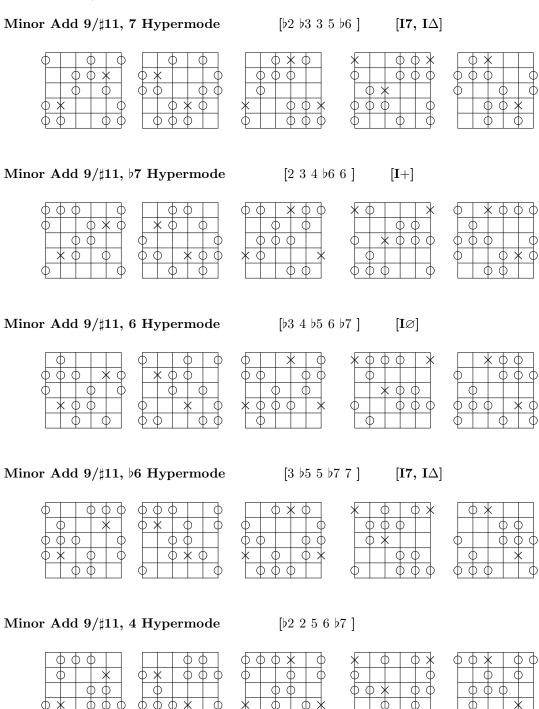


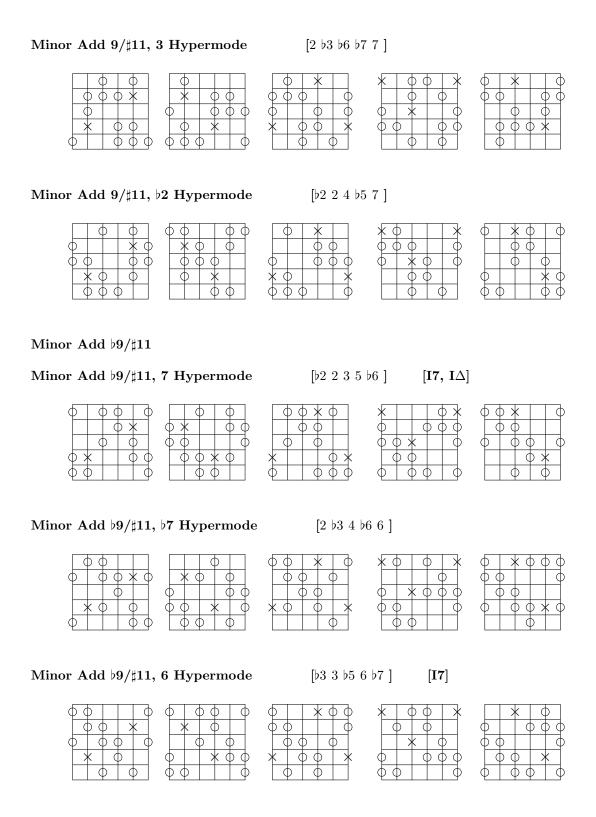


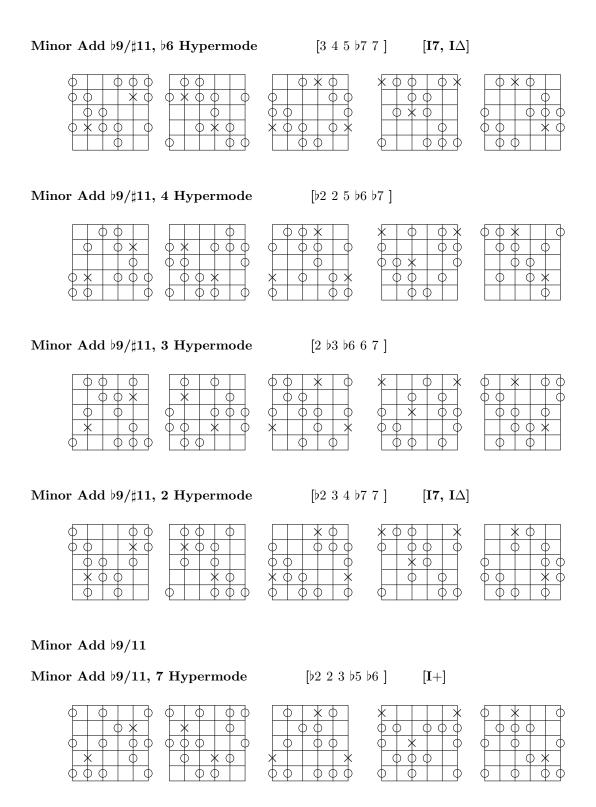
Minor Add 11/#11, 3 Hypermode [b2 2 b3 b6 7] Minor Add 11/#11, 2 Hypermode [b2 b3 3 4 b7] [I7] $\overline{\phi}$ φ $\star \Phi$ Minor Add 11/♯11, ♭2 Hypermode [2 3 4 \(\beta 5 7 \)] $[\mathbf{I}\Delta]$ Minor Add 9/11 Minor Add 9/11, 7 Hypermode [b2 b3 3 b5 b6] [I+]ΦΦ ΦΦ Minor Add 9/11, ♭7 Hypermode [2 3 4 5 6] [I7, I Δ] фФ $\times \Phi \Phi \Phi$

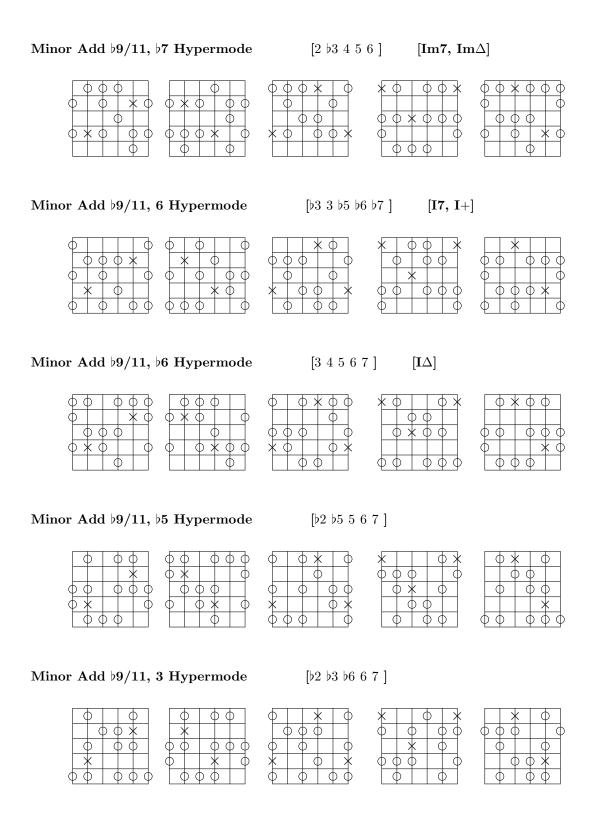


Minor Add 9/#11









Minor Add \$9/11, 2 Hypermode [b2 b3 4 b7 7] 5.1.3 Based on a Suspended Triad Sus 2 Add 11/#11 Sus 2 Add 11/#11, 7 Hypermode [b2 b3 b5 5 b6] $[\text{Im}7, \text{Im}\Delta]$ фф [2 3 5 \(\beta \) 6 6] Sus 2 Add 11/#11, \$7 Hypermode [I7, I Δ] фф $\Phi \Phi \Phi \Phi$ $\phi \phi *$ фж Sus 2 Add 11/#11, 6 Hypermode [b3 4 b6 6 b7] $\phi * \phi$ Ф Φ Sus 2 Add 11/#11, \(\beta \) Hypermode [3 \(\beta \)5 6 \(\beta \)7 7] [I7, I Δ] ΦΦ

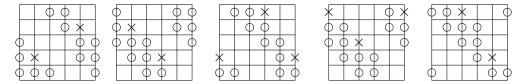
Sus 2 Add 11/#11, 3 Hypermode [b2 2 b3 b6 b7] Φ Sus 2 Add 11/#11, \(\psi\)3 Hypermode $[2 \ b3 \ 3 \ 6 \ 7]$ $[\mathbf{I}\Delta]$ ФФ ф фф ΦΦΦ ффф Sus 2 Add 11/#11, \(\phi\)2 Hypermode [b2 3 4 b5 7] $[\mathbf{I}\Delta]$ Sus 2 Add **b**13/**b**13 Sus 2 Add \(\beta 13 / \angle 13, 7 \) Hypermode [b2 b3 b6 6 b7] $\phi \phi *$ ФФ Sus 2 Add \(\beta 13 / \beta 13, \(\beta 7 \) Hypermode [2 3 6 \(\begin{array}{c} 7 7 \end{array} \) [I7, I Δ] ΦΦ ффф

Sus 2 Add \(\beta 13 / \beta 13, \(\beta 5 \) Hypermode [b2 2 b3 b5 b6] ф ф φ Sus 2 Add \(\beta 13 / \alpha 13, 4 \) Hypermode [2 \(\beta \) 3 3 5 6] $[\mathbf{I7}, \mathbf{I}\Delta]$ фф Φ $\Phi \Phi \Phi \Phi$ Sus 2 Add \(\beta 13 / \beta 13, 3 \) Hypermode [b3 3 4 b6 b7] [**I7**, **I**+] фф Sus 2 Add \(\beta 13 / \beta 13, \(\beta 3 \) Hypermode [3 4 \(\beta 5 6 7 \)] $[\mathbf{I}\Delta]$ $\overline{*} \Phi \Phi$ $* \phi \phi$ Sus 2 Add \(\beta 13 / \beta 13, \(\beta 2 \) Hypermode [b2 b5 5 b6 7] Φ ***** фф

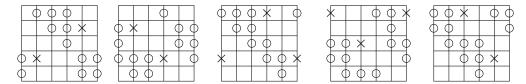
φφφ

Sus \$\dagger{2} Add 11/\$\pm\$11

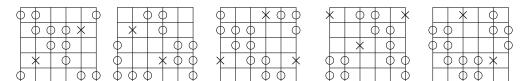
Sus \flat 2 Add 11/ \sharp 11, 7 Hypermode [\flat 2 2 \flat 5 5 \flat 6]



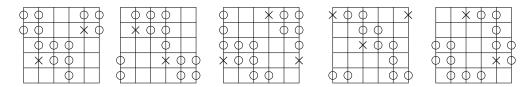
Sus $\flat 2$ Add $11/\sharp 11$, $\flat 7$ Hypermode [2 $\flat 3$ 5 $\flat 6$ 6] [Im7, Im Δ]

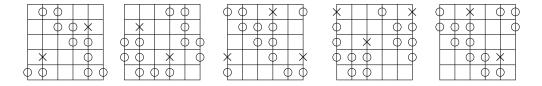


Sus \flat 2 Add 11/ \sharp 11, 6 Hypermode [\flat 3 3 \flat 6 6 \flat 7] [I7, I+]

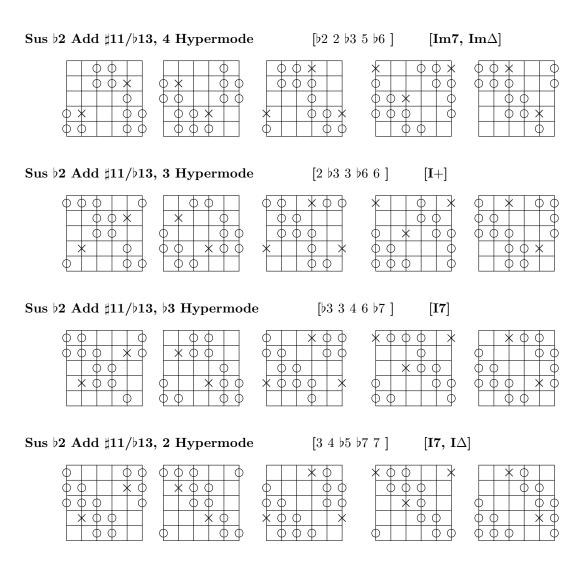


Sus \flat 2 Add 11/ \sharp 11, \flat 6 Hypermode [3 4 6 \flat 7 7] [I7, I Δ]





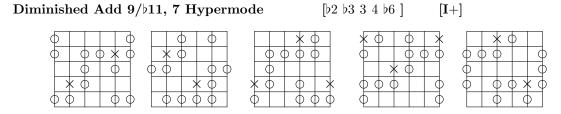
Sus \$\daggerup 2 Add 11/\pi11, \$\daggerup 3 Hypermode [2 \(\beta \) 3 3 6 \(\beta \)] [I7]Sus $\flat 2$ Add $11/\sharp 11$, 2 Hypermode [b3 3 4 b7 7] [I7, I Δ] ΦΦ ФФ ф фф Sus \$\dagger{2} Add \$\pm\$11/\$\dagger{13}\$ Sus $\flat 2$ Add $\sharp 11/\flat 13$, 7 Hypermode [b2 2 5 b6 6] ΦΦΦ фф $\overline{\phi}$ Фф<u>ж</u> фф φ Sus $\flat 2$ Add $\sharp 11/\flat 13$, $\flat 7$ Hypermode [2 \(\beta \) \(\beta \) 6 6 \(\beta \) 7] φ ФФ Sus \$\daggerup 2 Add \$\pmu 11/\daggerup 13, 6 Hypermode [b3 3 6 b7 7] [I7, I Δ] ФФ ФФ



5.2 With Largest Interval an Augmented Fourth

5.2.1 Based on a Diminished Triad

Diminished Add 9/b11



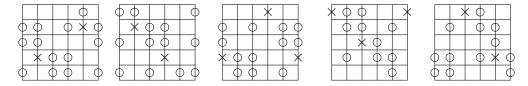
ффф

Diminished Add 9/\(\beta 11\), \(\beta 7\) Hypermode [2 3 4 \(\beta 5 6 \)] * 4 4 4 Diminished Add 9/\$11, 6 Hypermode [b3 4 b5 5 b7] [Im7] $\phi \star \phi$ [3 \(\beta \) 5 5 \(\beta \) 6 7] Diminished Add 9/\(\beta 11\), \(\beta 6\) Hypermode $[\mathbf{I}\Delta]$ Φ ффф Diminished Add 9/\(\beta\)11, \(\beta\)5 Hypermode [b2 b5 b6 6 b7] ΦΦΦ Diminished Add 9/\$11, 4 Hypermode $[2\ 5\ 6\ b7\ 7\]$

Diminished Add 9/\(\beta 11\), \(\beta 2\) Hypermode [b2 2 b3 b5 7] Ф Φ Diminished Add \$9/11 Diminished Add 9/11, 7 Hypermode [I7, I Δ] [b2 2 3 b5 5] ΦΦ φφ ФФ Diminished Add \(9/11, \(7 \) Hypermode [2 \(\beta \) 4 5 \(\beta \) [[Im7, Im Δ] фф $\phi \phi \star \phi$ φ $\overline{\Phi}$ Diminished Add \$9/11, 6 Hypermode [I+]Diminished Add \(\beta 9/11, \(\beta 6 \) Hypermode $[3\ 4\ 5\ 6\ b7\]$ [I7] $* \Phi$

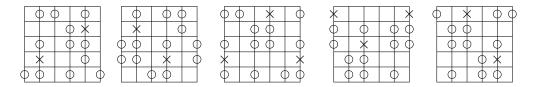
Diminished Add \(\partial 9/11, 5 \) Hypermode

[4 b5 b6 b7 7]



Diminished Add \$9/11, 3 Hypermode

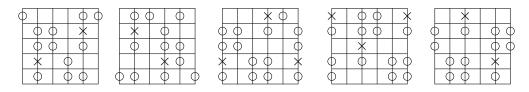
[b2 2 b6 6 7]



Diminished Add \$9/11, 2 Hypermode

[b2 b3 3 b7 7]

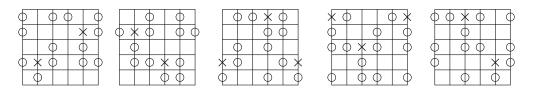




Diminished Add \$9/\$11

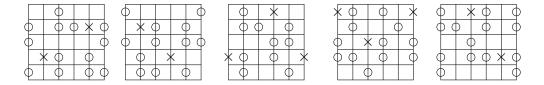
Diminished Add \$9/\$11, 7 Hypermode

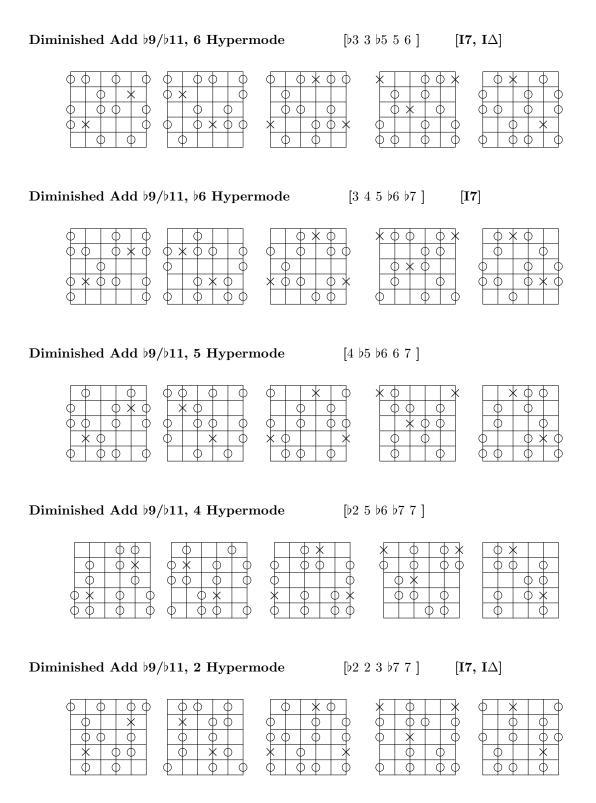
[b2 2 3 4 5] $[\mathbf{I7}, \mathbf{I}\Delta]$



Diminished Add \$9/\$11, \$7 Hypermode

[2 \(\beta \) 4 \(\beta \) \(\beta \) [2



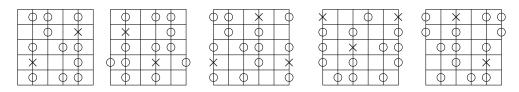


5.2.2 Based on a Suspended Triad

Sus \flat 2 \triangle Add 13

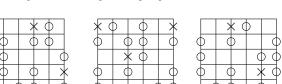
Sus $\flat 2 \triangle$ Add 13, $\flat 7$ Hypermode

[b2 2 b3 6 7]



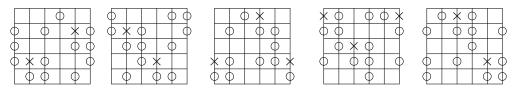
Sus \flat 2 Δ Add 13, \flat 6 Hypermode

 $[\flat 2 \ \flat 3 \ 3 \ 4 \ 7 \] \qquad [\mathbf{I}\Delta]$



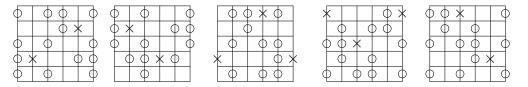
Sus $\flat 2$ Δ Add 13, $\flat 5$ Hypermode



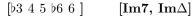


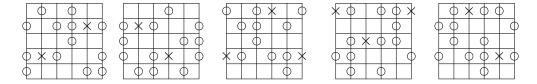
Sus \flat 2 Δ Add 13, 4 Hypermode

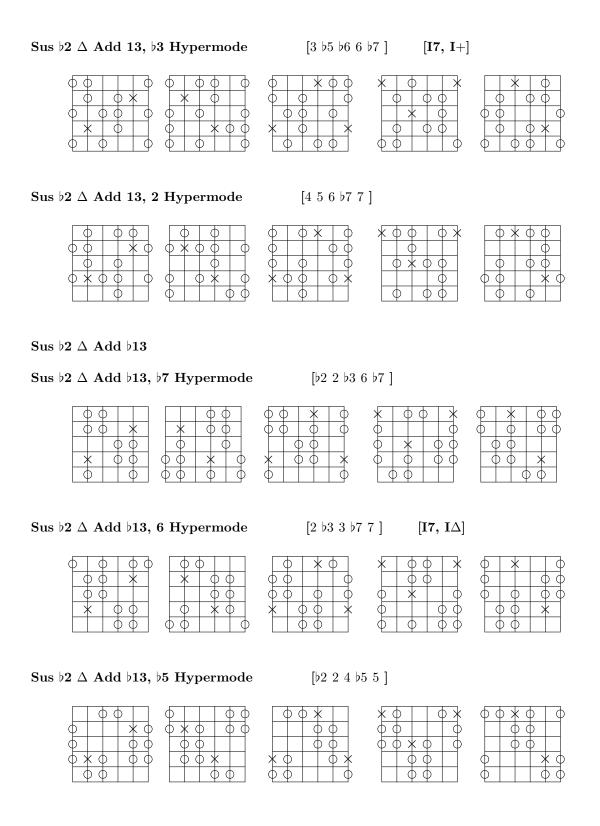
[2 3 \flat 5 5 \flat 6] [I7, I Δ]



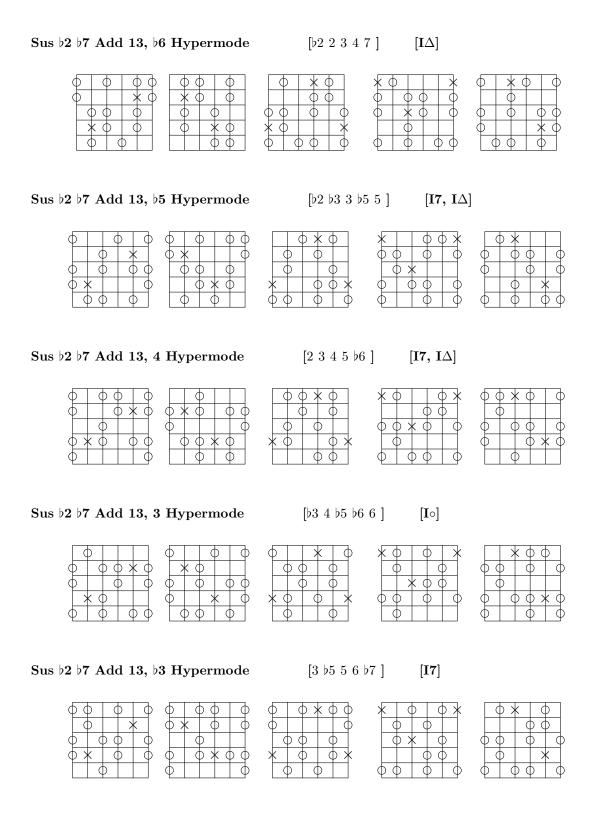
Sus $\flat 2$ Δ Add 13, 3 Hypermode



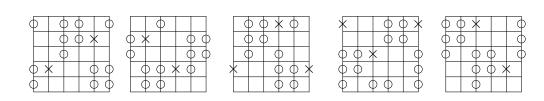




Sus $\flat 2$ Δ Add $\flat 13$, 4 Hypermode $[2 \ b3 \ b5 \ 5 \ b6 \]$ $[\mathrm{Im}7,\ \mathrm{Im}\Delta]$ фф φφ× φ Sus \flat 2 Δ Add \flat 13, 3 Hypermode [b3 3 5 b6 6] [I7, I Δ] фф фф Sus \flat 2 Δ Add \flat 13, \flat 3 Hypermode $[3\ 4\ b6\ 6\ b7\]$ [**I7**, **I**+] Ф Sus $\flat 2$ Δ Add $\flat 13$, 2 Hypermode $[4 \ b5 \ 6 \ b7 \ 7]$ ΦФ Sus $\flat 2 \ \flat 7 \ Add \ 13$ Sus \$2 \$7 Add 13, 7 Hypermode [b2 2 b6 b7 7]



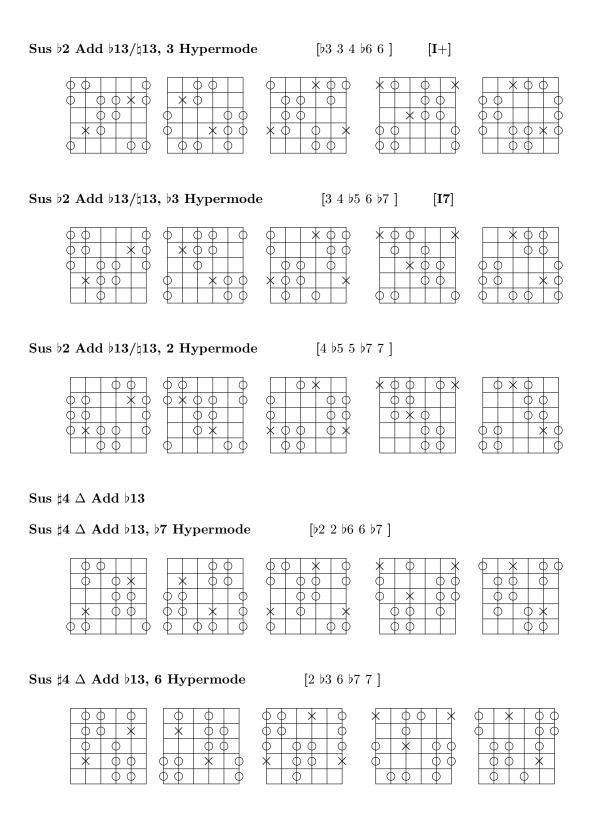
Sus \$\daggeright 2 \$\daggeright 7 \text{ Add 13, 2 Hypermode}\$ $[4\ 5\ b6\ b7\ 7\]$ Sus | 2 Add | 13 / | 13 Sus \$\daggeright 2 Add \$\daggeright 13/\daggeright 13, 7 Hypermode [b2 2 b6 6 b7] $A \times$ фф фф фф Sus $\flat 2$ Add $\flat 13/\sharp 13$, $\flat 7$ Hypermode [2 \(\beta \) 6 \(\beta \) 7] фф Sus $\flat 2$ Add $\flat 13/\natural 13$, $\flat 5$ Hypermode [b2 2 b3 b5 5] [Im7, Im Δ] **0 0 0**



[2 \(\beta \) 3 3 5 \(\beta \) [

[I7, I Δ]

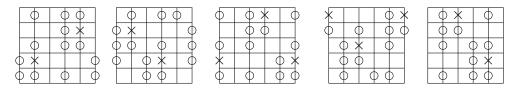
Sus \$\daggeright 2 Add \$\daggeright 13/\daggeright 13, 4 Hypermode



Sus $\sharp 4$ Δ Add $\flat 13$, 4 Hypermode [b2 2 b3 b5 5] $[\mathrm{Im}7,\ \mathrm{Im}\Delta]$ Sus $\sharp 4$ Δ Add $\flat 13$, 3 Hypermode [2 \(\beta \) 3 3 5 \(\beta \) [[I7, I Δ] фф $\overline{\Phi}$ Sus $\sharp 4$ Δ Add $\flat 13$, $\flat 3$ Hypermode [b3 3 4 b6 6] [I+]Φ жφф Sus $\sharp 4 \Delta$ Add $\flat 13$, 2 Hypermode [3 4 \(\beta 5 6 \(\beta 7 \)] [I7]фф Sus $\sharp 4$ Δ Add $\flat 13$, $\flat 2$ Hypermode [4 b5 5 b7 7] фф

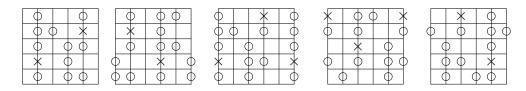
Sus #4 b7 Add b13

Sus #4 b7 Add b13, 7 Hypermode [b2 5 b6 6 7]



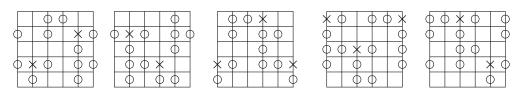
Sus #4 b7 Add b13, 6 Hypermode

[b2 b3 6 b7 7]

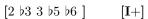


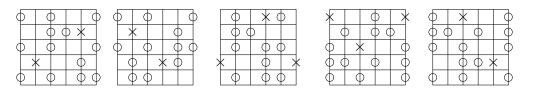
Sus #4 b7 Add b13, 4 Hypermode





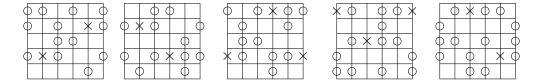
Sus #4 \$7 Add \$13, 3 Hypermode



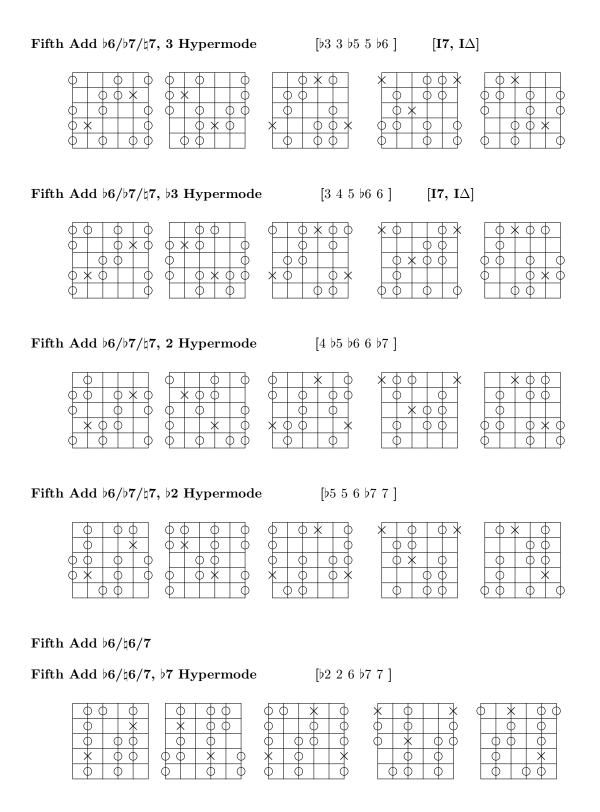


Sus #4 b7 Add b13, b3 Hypermode

 $[b3 \ 3 \ 4 \ 5 \ 6]$ $[I7, I\Delta]$



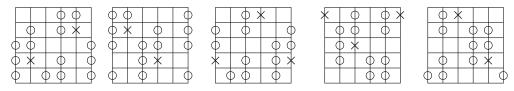
Sus #4 b7 Add b13, 2 Hypermode [3 4 \(\beta 5 \) \(\beta 6 \) \(\beta 7 \)] [I7, I+] Sus $\sharp 4$ $\flat 7$ Add $\flat 13$, $\flat 2$ Hypermode [4 \b5 5 6 7] With Largest Interval a Fifth 5.3 Fifth Add ♭6/♭7/‡7 Fifth Add $\flat 6/\flat 7/\natural 7$, 6 Hypermode [b2 2 b3 b7 7] Fifth Add $6/\sqrt{7}$, 5 Hypermode [b2 2 3 4 b5] Fifth Add $\flat 6/\flat 7/\natural 7$, 4 Hypermode [2 \(\beta \) 4 \(\beta \) 5 \(5 \)] $[{\rm Im}7,\ {\rm Im}\Delta]$ φ φφ ФФ



Fifth Add ♭6/は6/7, ♭5 Hypermode [b2 2 b3 4 b5] Fifth Add \(\beta 6 / \beta 6 / 7, 4 \) Hypermode [2 \(\beta \) 3 3 \(\beta \) 5 5] [I7, I Δ] Fifth Add 6/46/7, 3 Hypermode [b3 3 4 5 b6] [I7, I Δ] фф Fifth Add $\flat 6/ \flat 6/7$, $\flat 3$ Hypermode $[3\ 4\ b5\ b6\ 6\]$ [I+]Fifth Add 6/46/7, 2 Hypermode [4 b5 5 6 b7]

Fifth Add $\flat 6/ \flat 6/7$, $\flat 2$ Hypermode

[\$5 5 \$6 \$7 7]

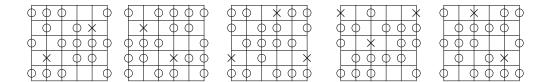


6

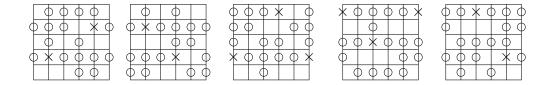
Altered-Note Heptatonics Part 1: The Major Scale

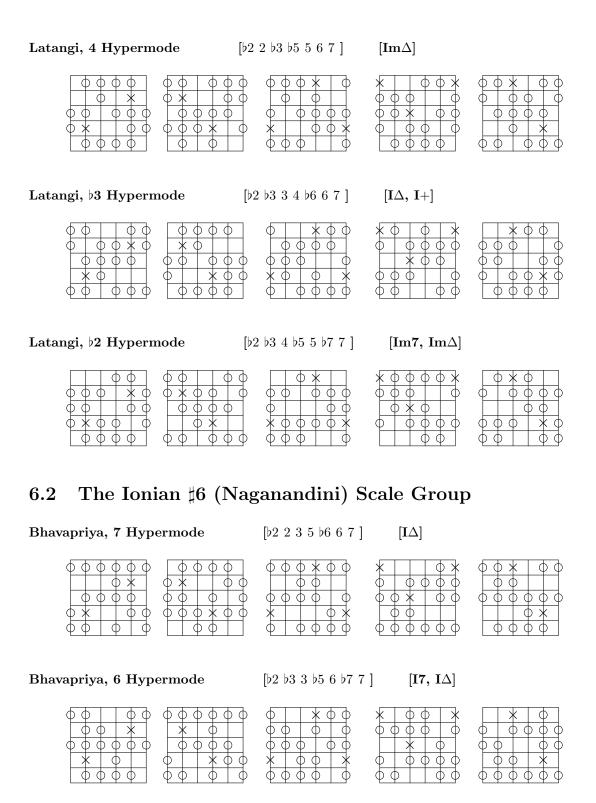
6.1 The Ionian \$\dagger\$2 (Suryakantam) Scale Group

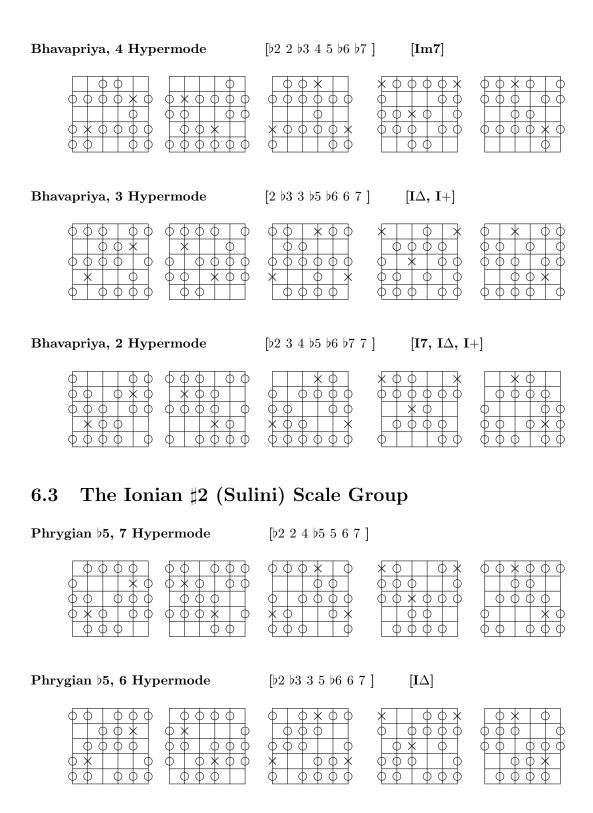
Latangi, \flat 7 Hypermode [\flat 2 2 3 \flat 5 \flat 6 6 \flat 7] [I7, I+]

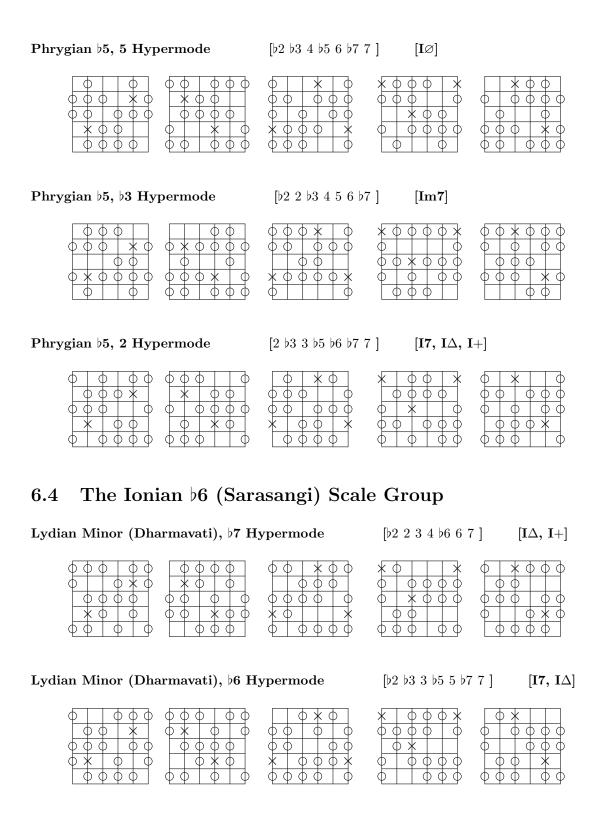


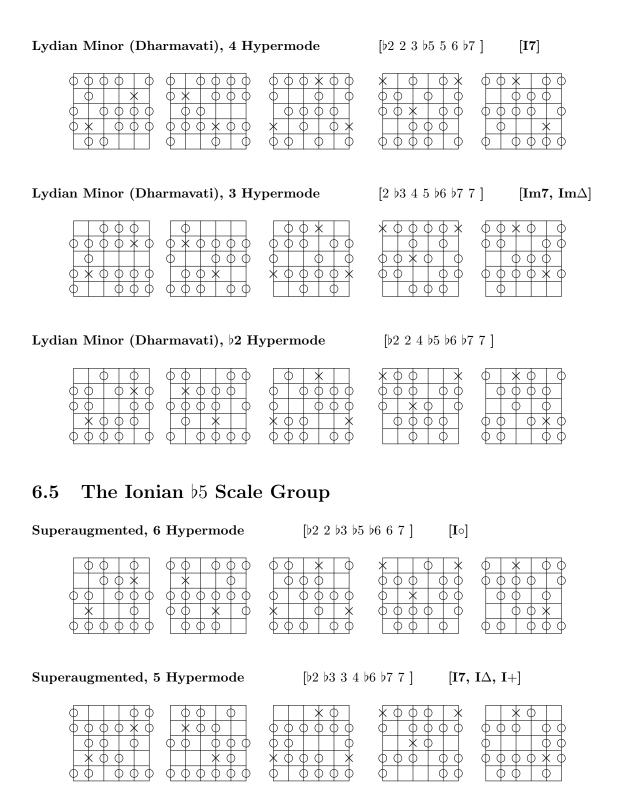
Latangi, 6 Hypermode $[2 \ \flat 3 \ 4 \ 5 \ 6 \ \flat 7 \ 7]$ $[Im 7, Im \Delta]$

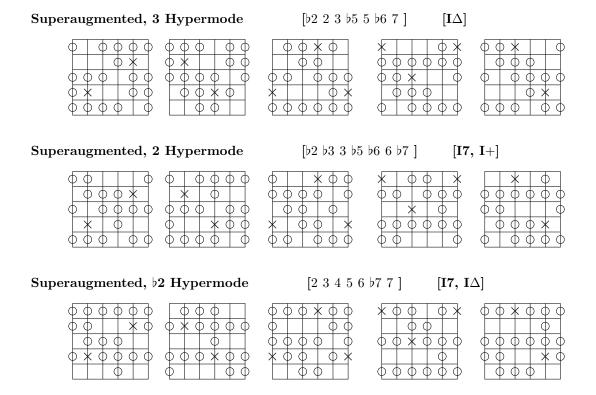










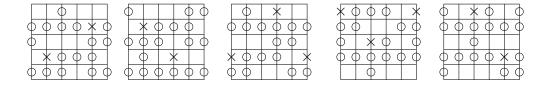


Altered-Note Heptatonics Part 2: The Harmonic Minor Scale

7.1 The Harmonic Minor #6 (Varunapriya) Group

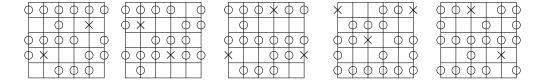
Harmonic Minor #6 (Varunapriya), 6 Hypermode

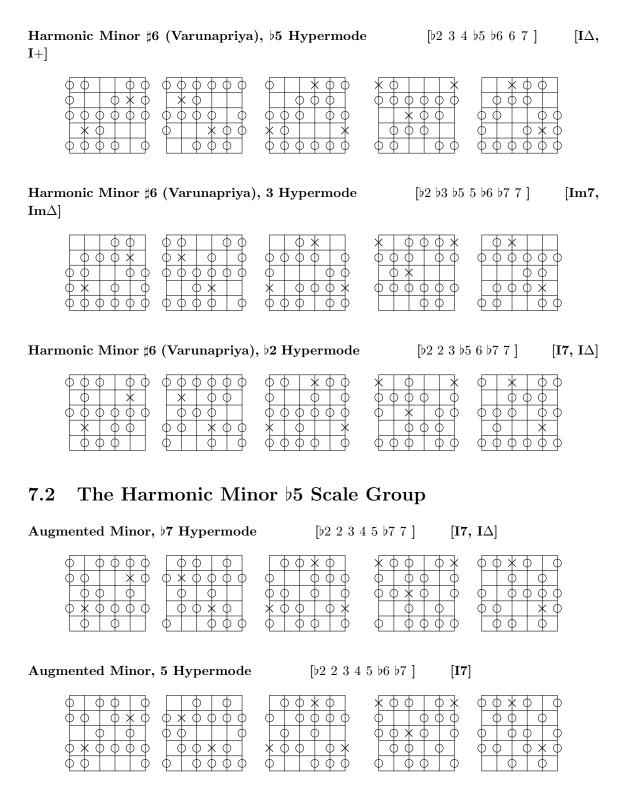
[b2 2 b3 4 b5 b6 b7] [**I**Ø]

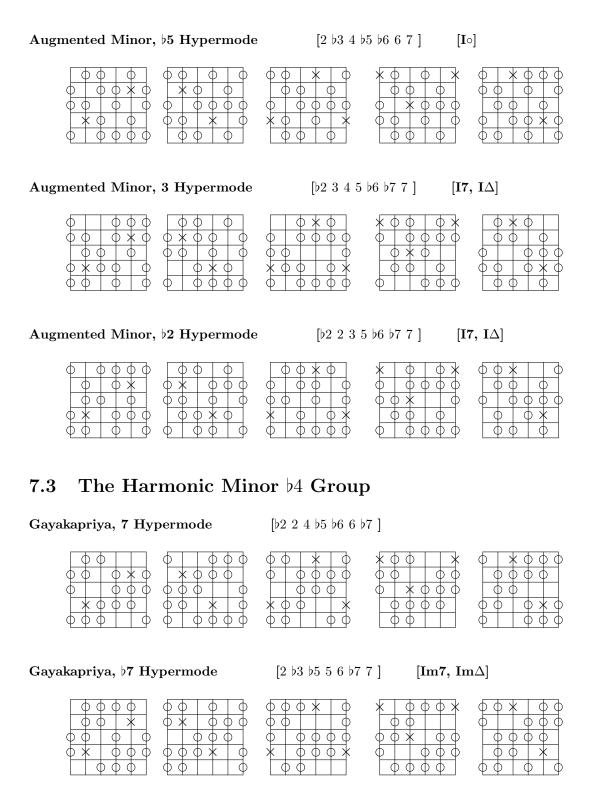


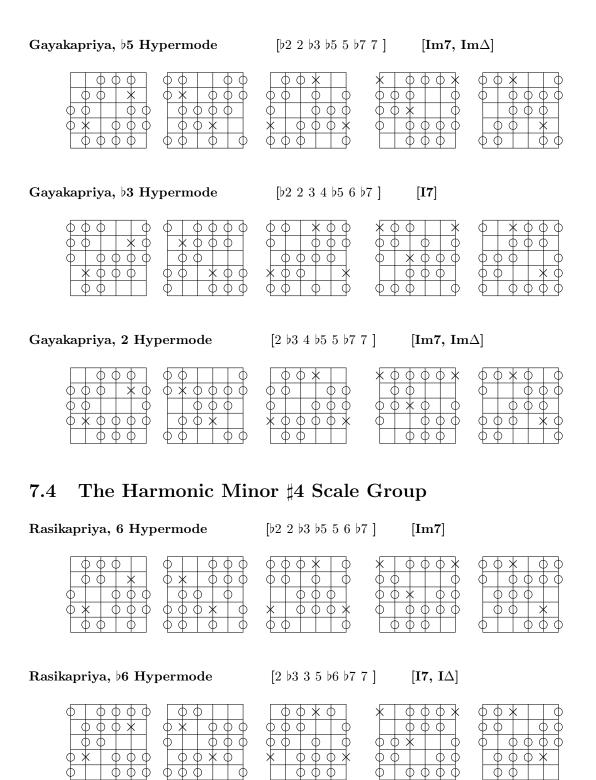
Harmonic Minor #6 (Varunapriya), b6 Hypermode

 $[2 \ b3 \ 3 \ b5 \ 5 \ 6 \ 7]$ $[I\Delta]$



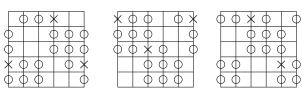




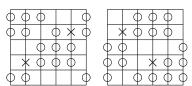


Rasikapriya, 4 Hypermode

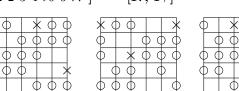
[b2 2 4 b5 5 b7 7]



Rasikapriya, 2 Hypermode

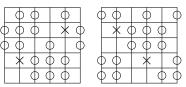


[b2 2 3 4 b6 6 b7]



[**I7**, **I**+]

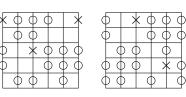
Rasikapriya,	$\flat 2$	Hypermode	,



$[2 \ b3 \ 4 \ b5 \ 6 \ b7 \ 7 \]$



$[\mathbf{I}\varnothing]$



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8

Altered-Note Heptatonics Part 3: The Melodic Minor Scale

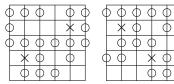
8.1 The Melodic Minor 54 Scale Group

Melodic Minor $\flat 4$, $\flat 7$ Hypermode

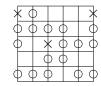
[62 2 3 4 65 6 7]

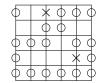
 $[\mathbf{I}\Delta]$

 $[\mathbf{I}\Delta]$



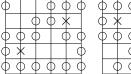






Melodic Minor $\flat 4$, $\flat 6$ Hypermode

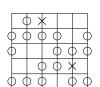
[b2 b3 3 b5 5 b6 7]

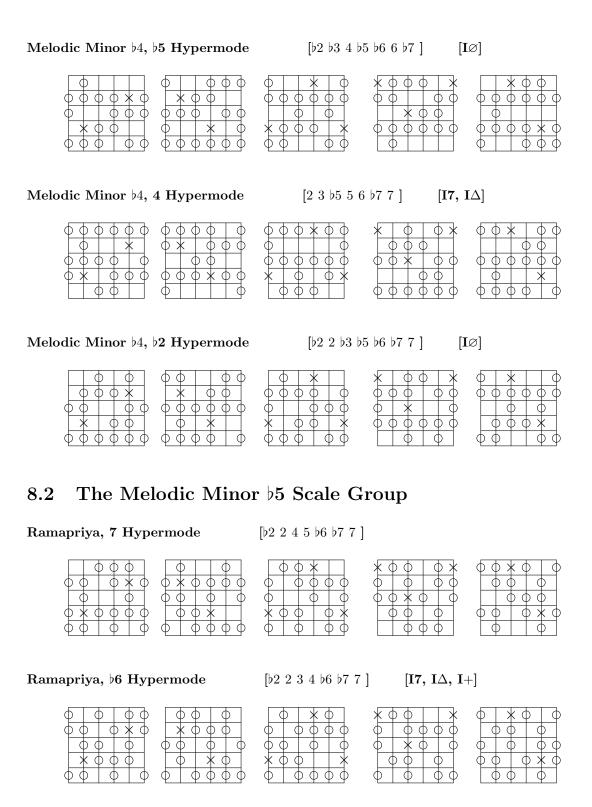


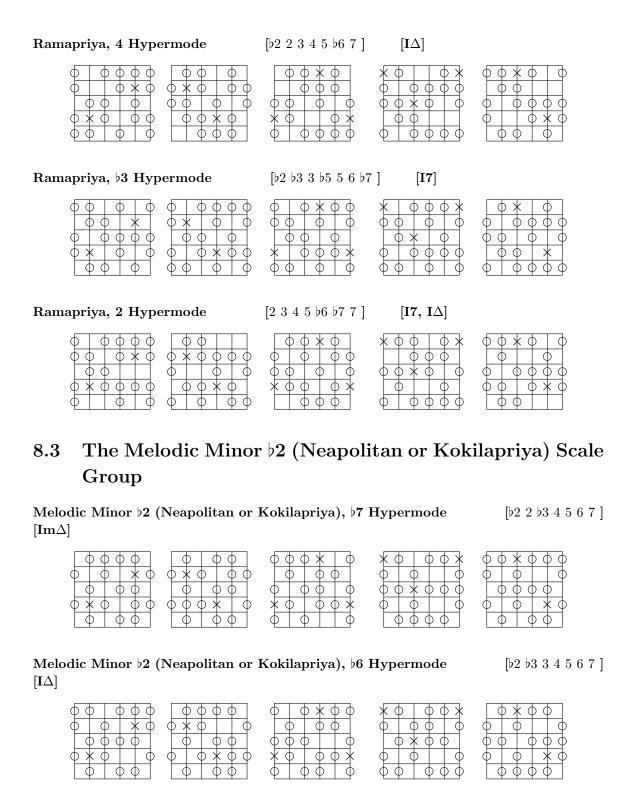


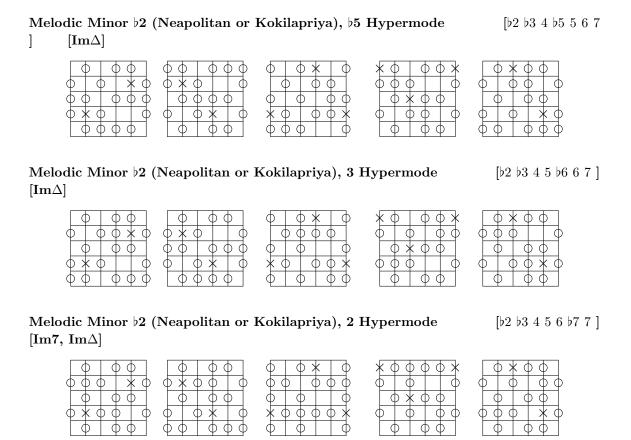












Further Heptatonics

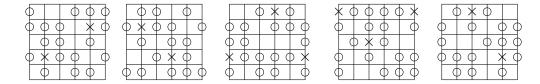
9.1 With One Minor Third

9.1.1 The Suvarnangi Scale Group

Dorian Blues, 7 Hypermode

[b2 b3 3 4 5 b7 7]

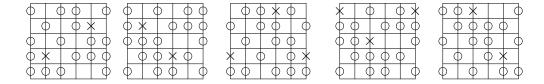
[I7, I Δ]

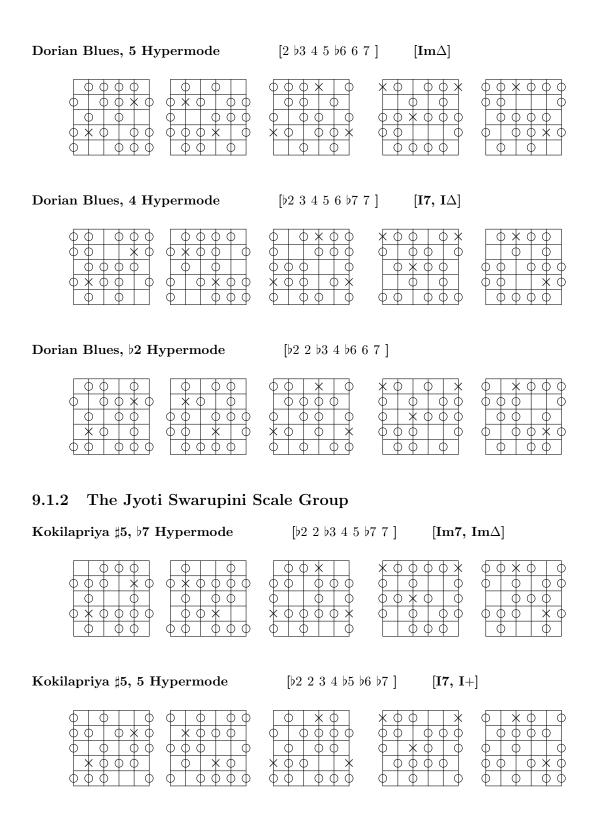


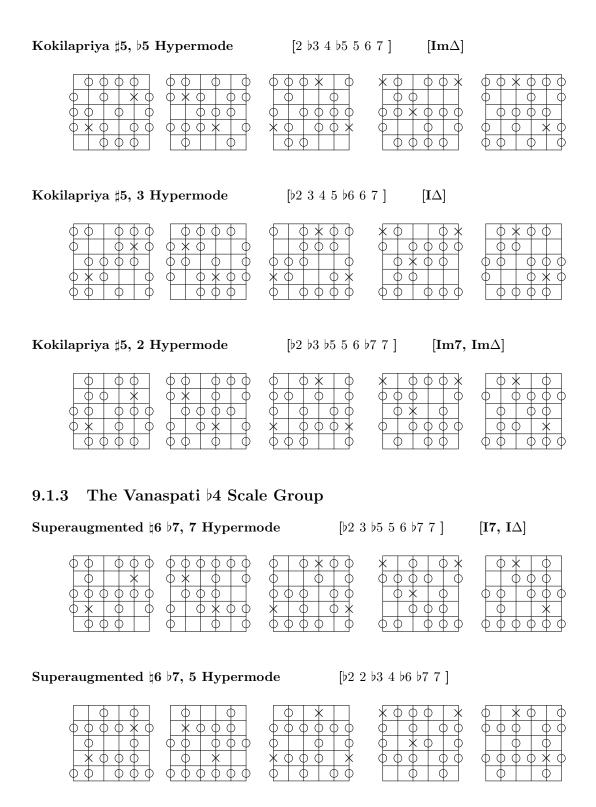
Dorian Blues, $\flat 6$ Hypermode

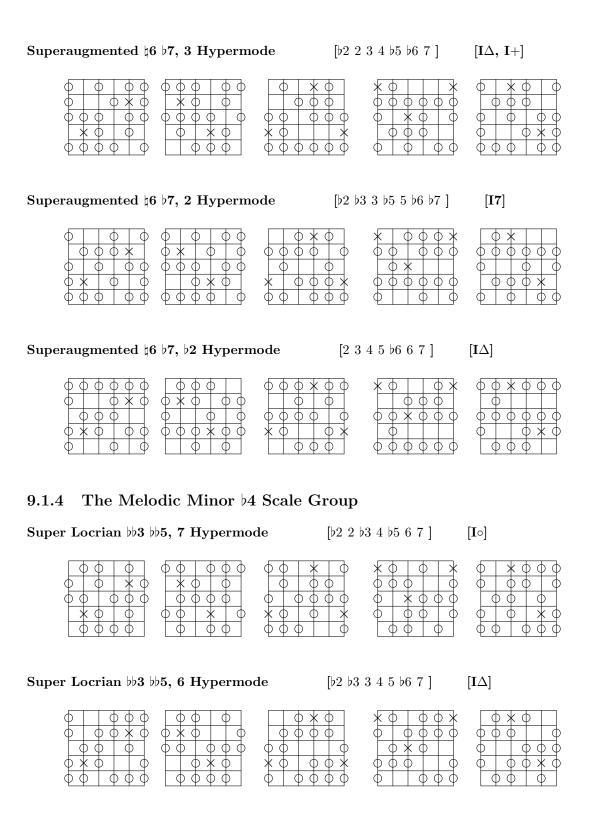
[b2 2 3 b5 5 b6 b7]

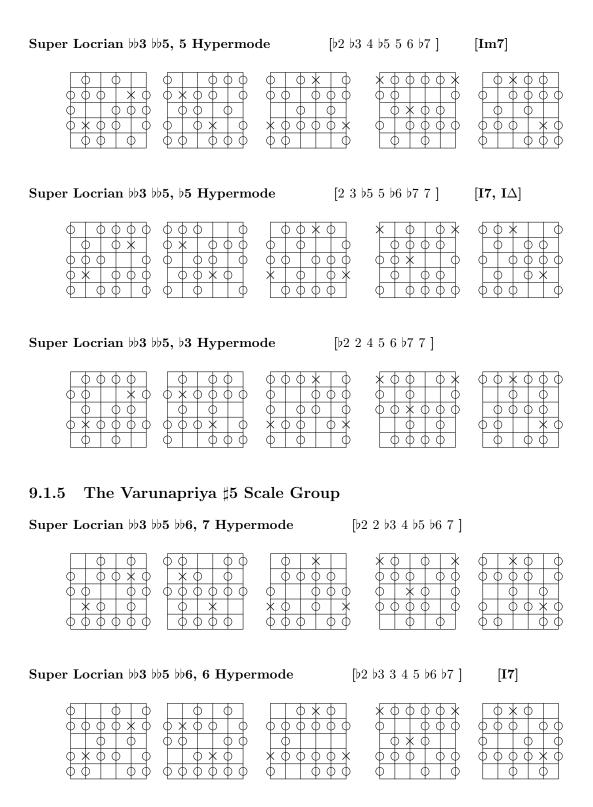
[I7]

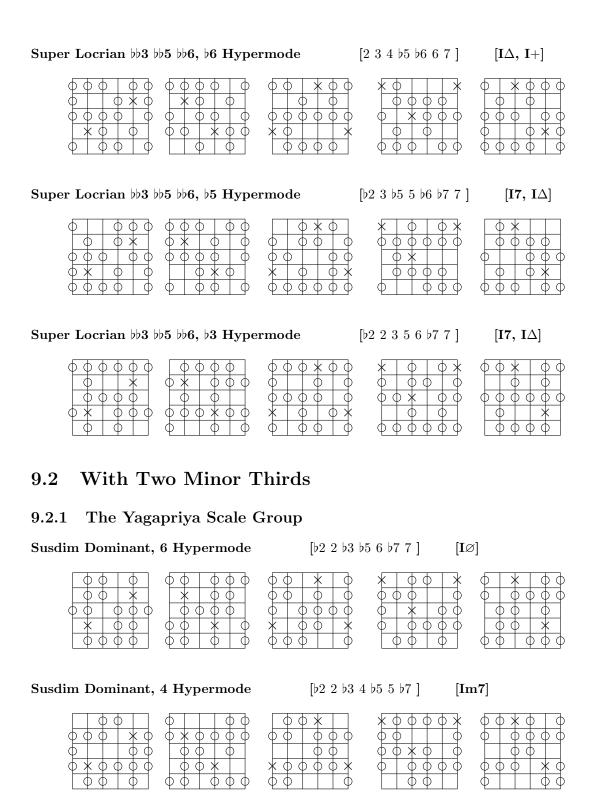


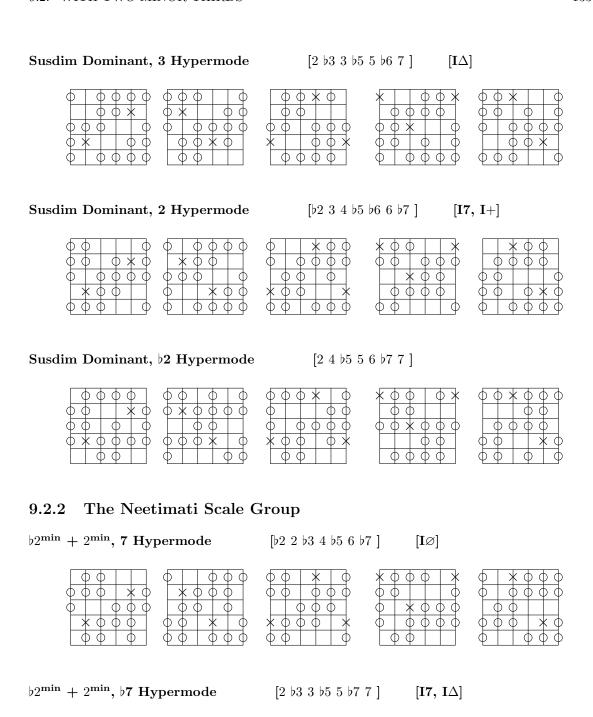


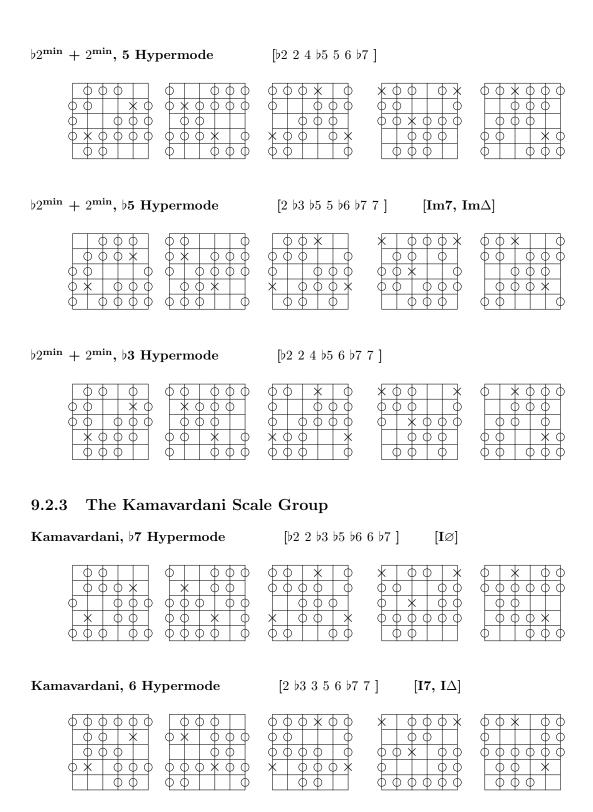


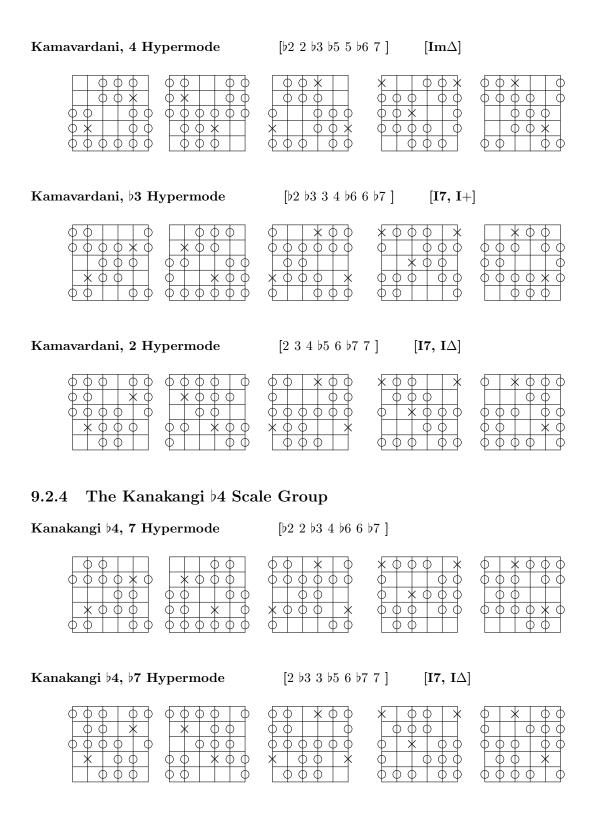






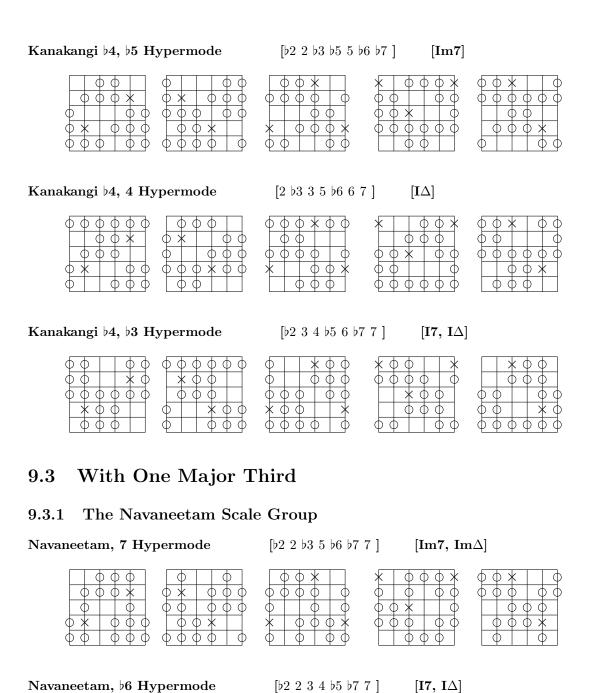


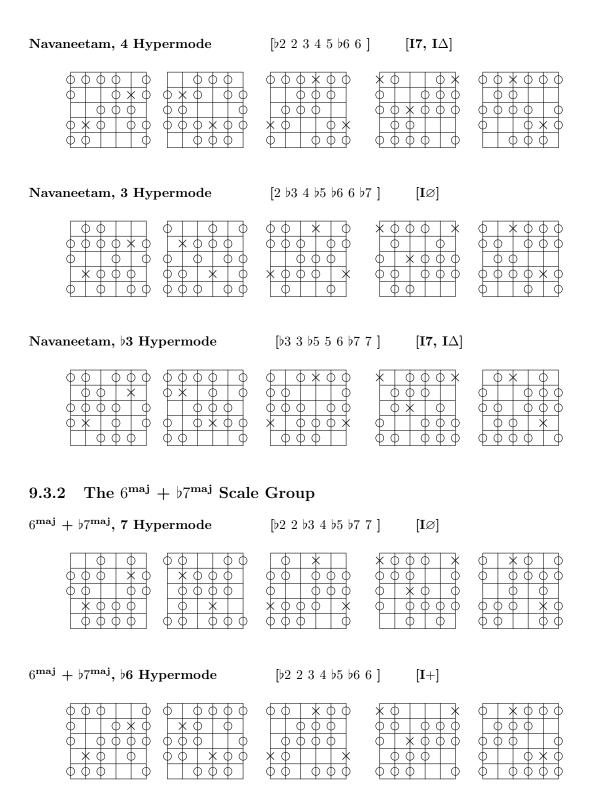


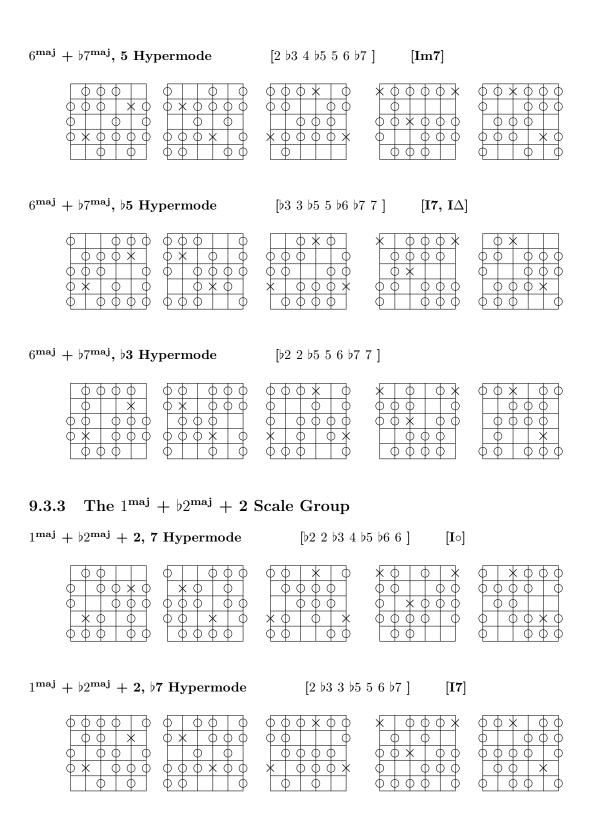


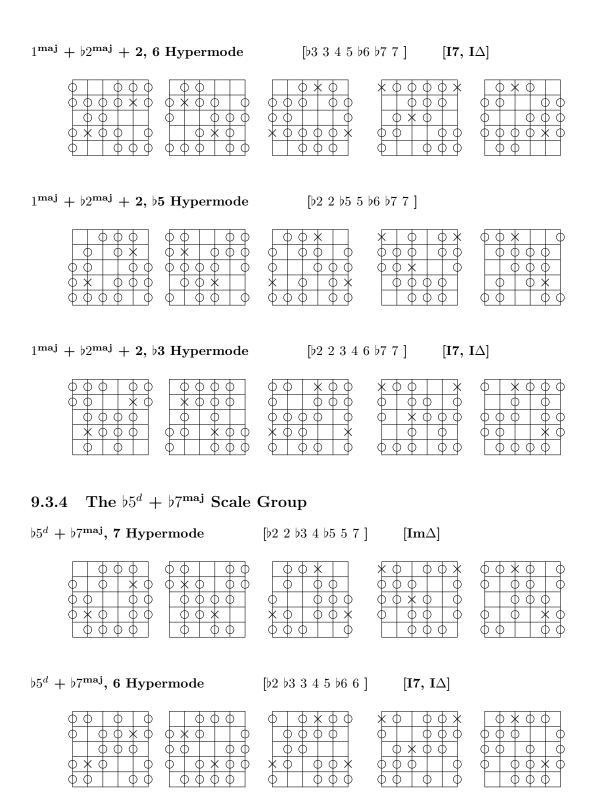
Φ Φ

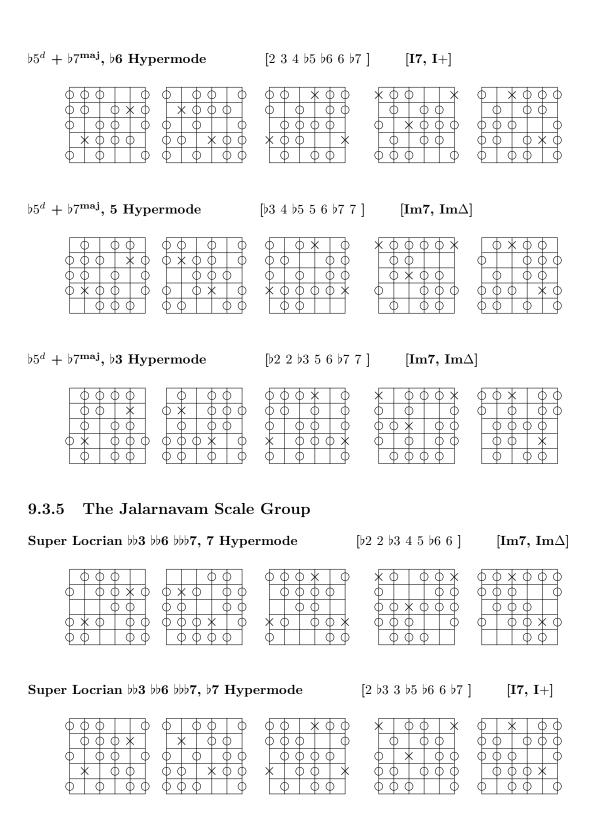
ΦΦΦ

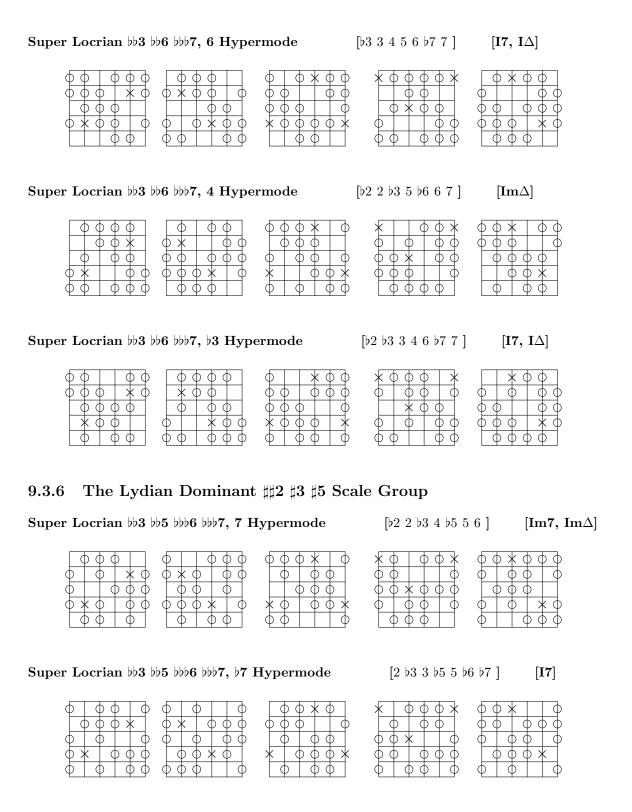


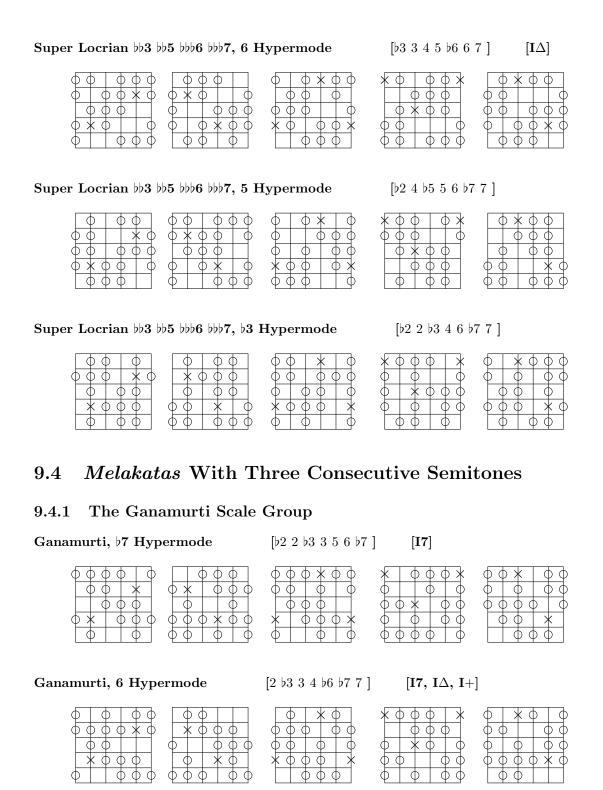




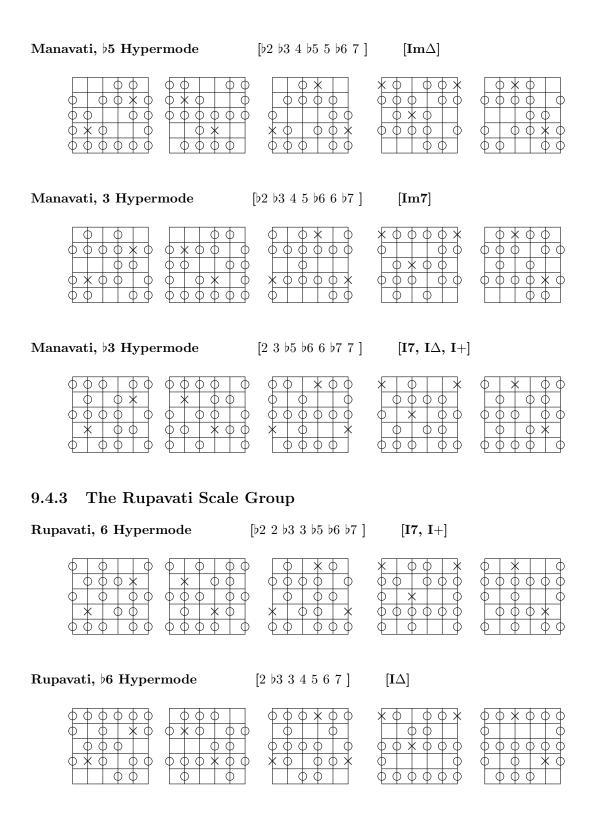


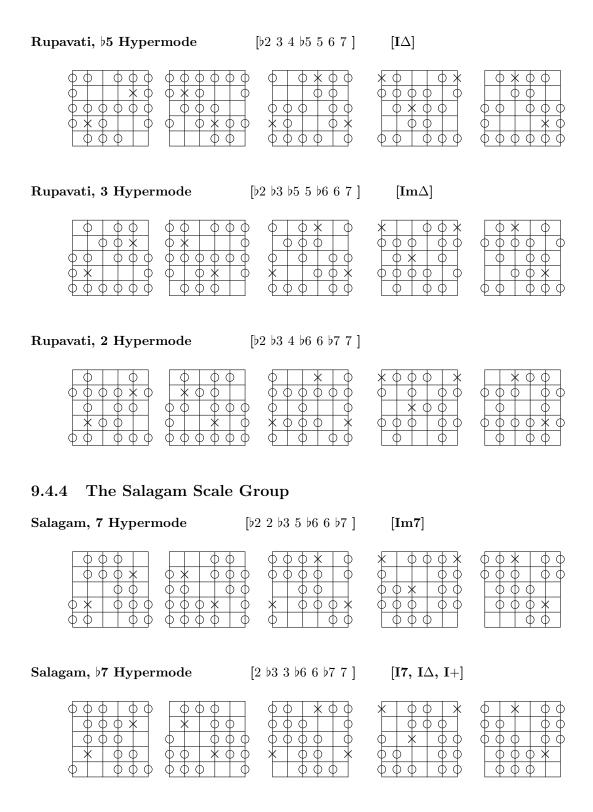


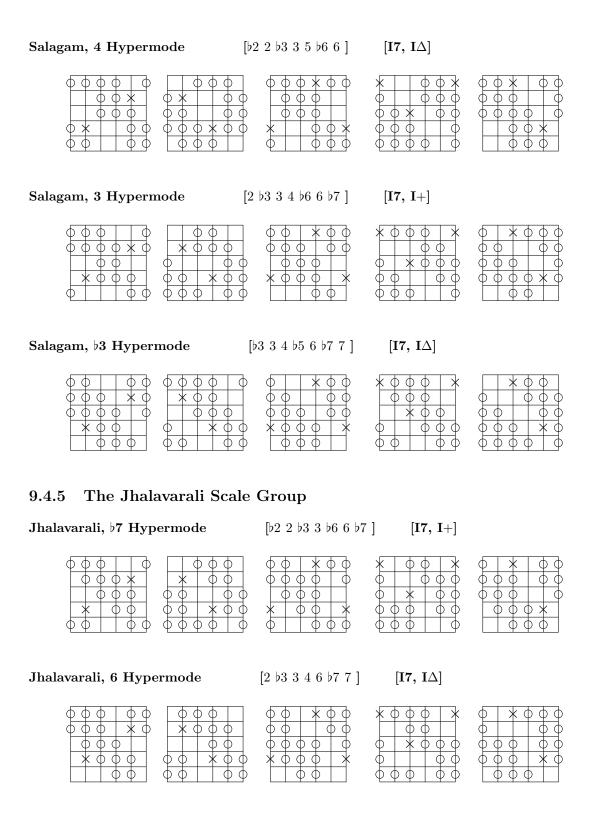


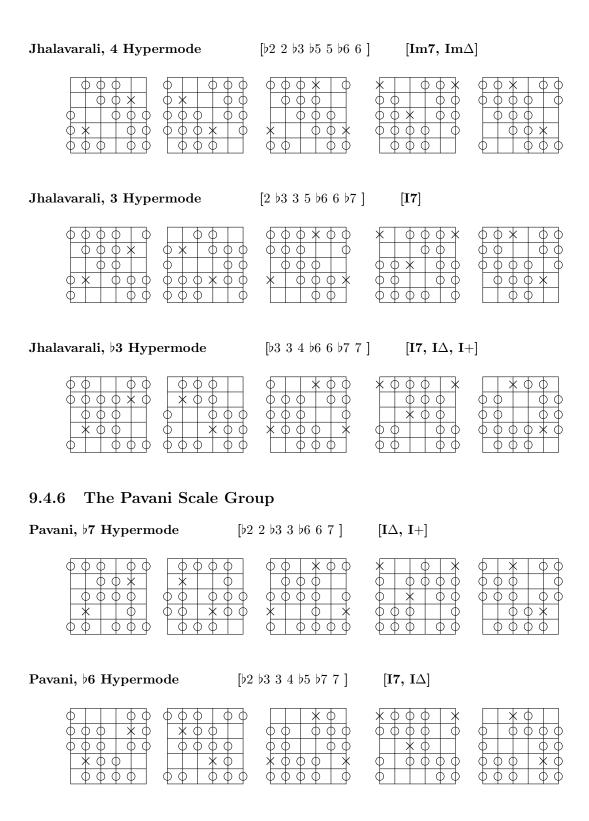


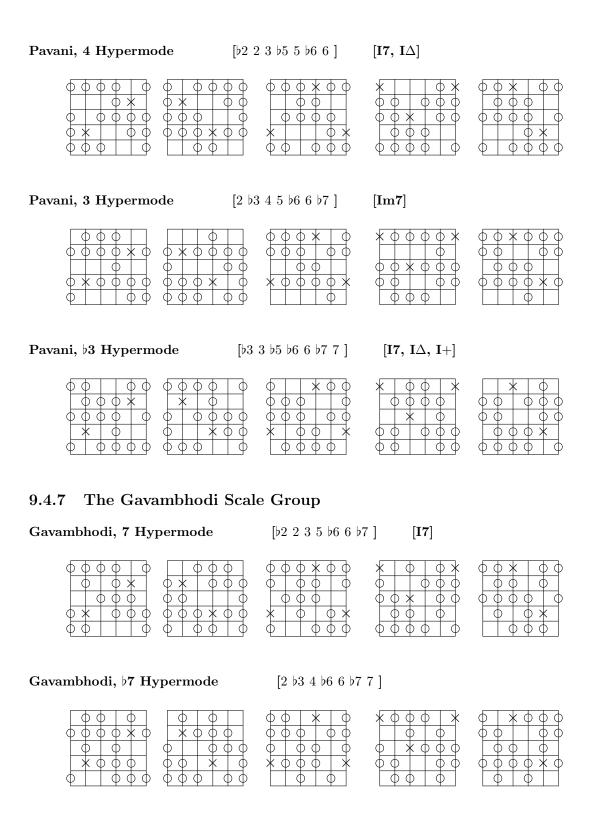
Ganamurti, ♭5 Hypermode [b2 2 4 b5 5 b6 7] Ganamurti, 3 Hypermode [b2 b3 3 5 b6 6 b7] [I7]ффф Ganamurti, •3 Hypermode [2 3 4 \(\beta \) 6 6 \(\beta \) 7 7] $[\mathbf{I7},\ \mathbf{I}\Delta,\ \mathbf{I}+]$ The Manavati Scale Group [b2 2 b3 3 5 6 7] Manavati, ♭7 Hypermode $[\mathbf{I}\Delta]$ Manavati, b6 Hypermode [b2 b3 3 4 b5 6 7] $[\mathbf{I}\Delta]$ *Ф

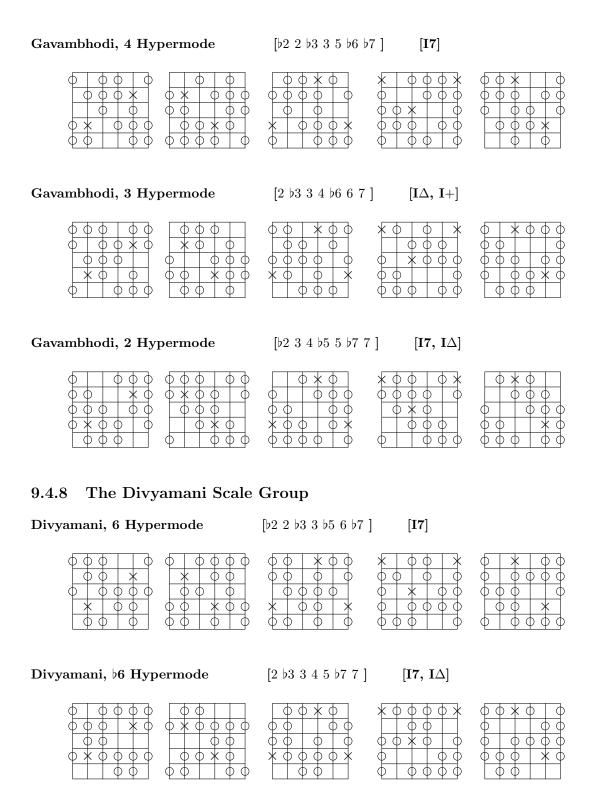


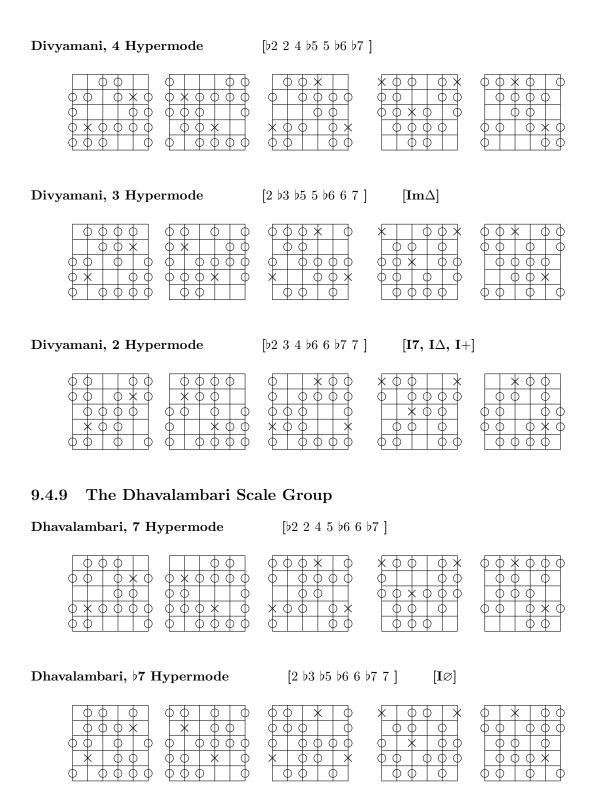


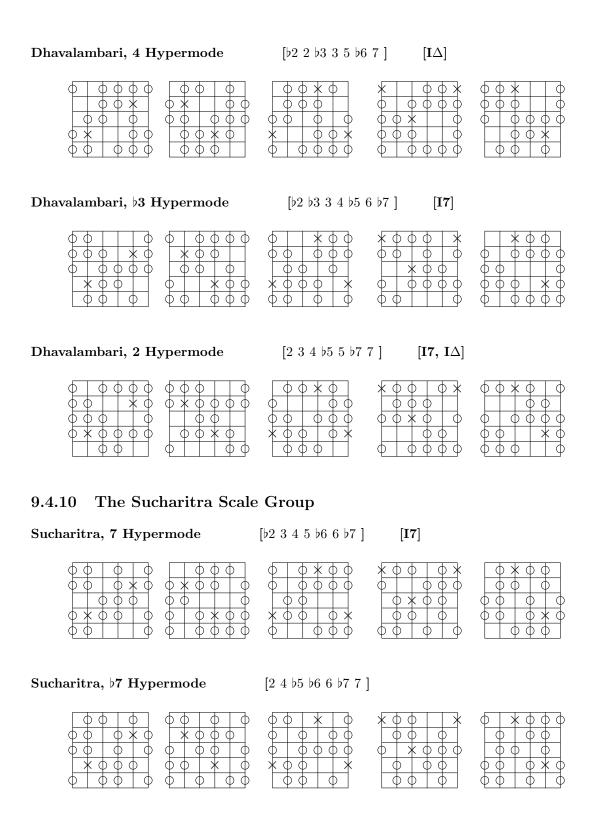


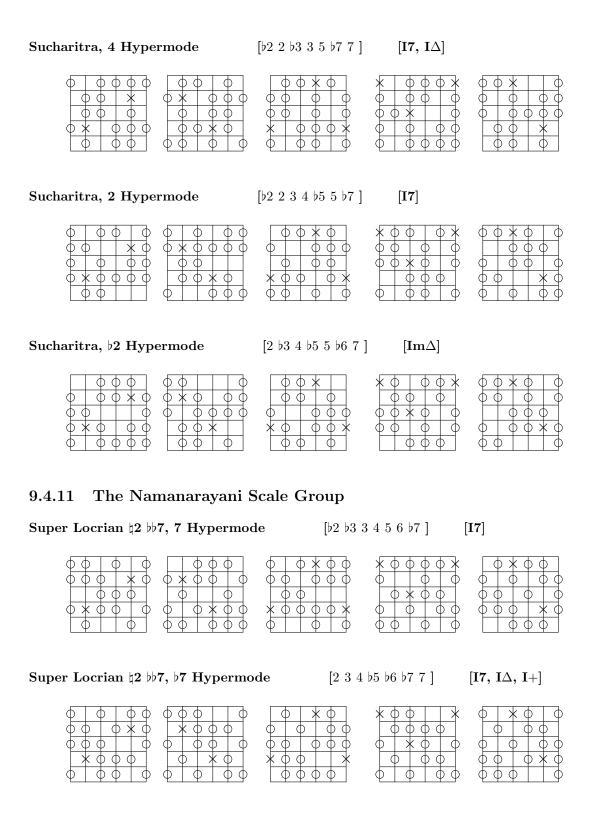


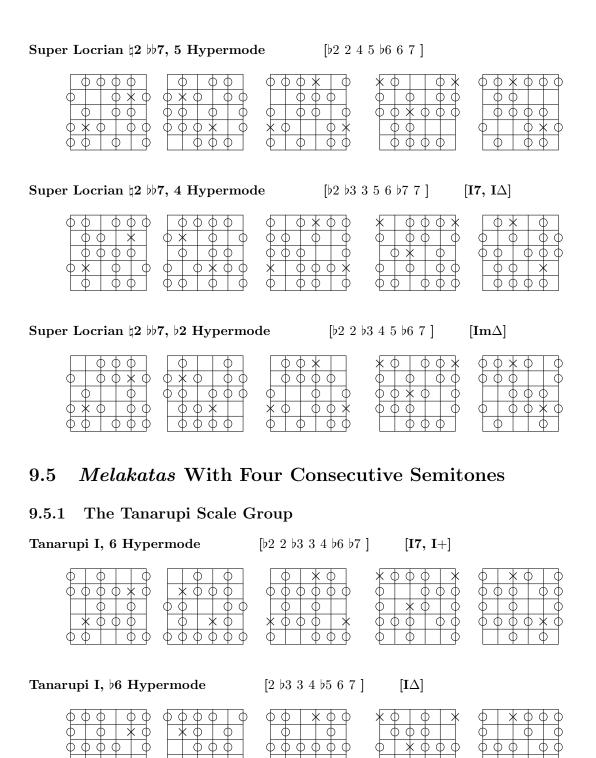


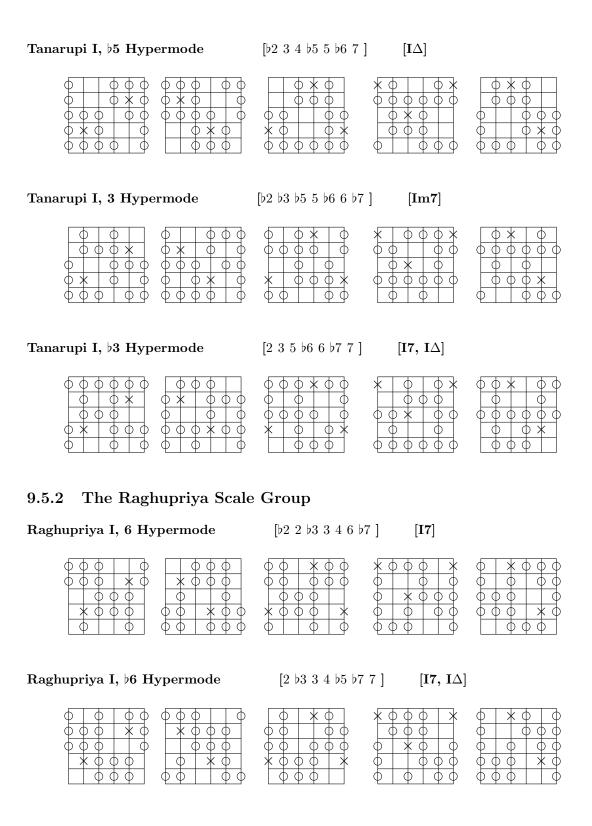


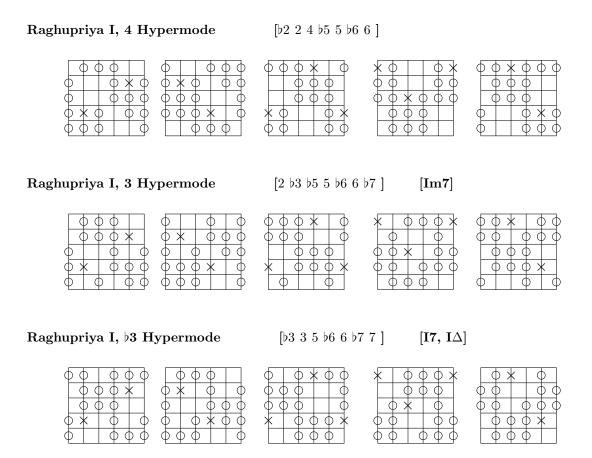








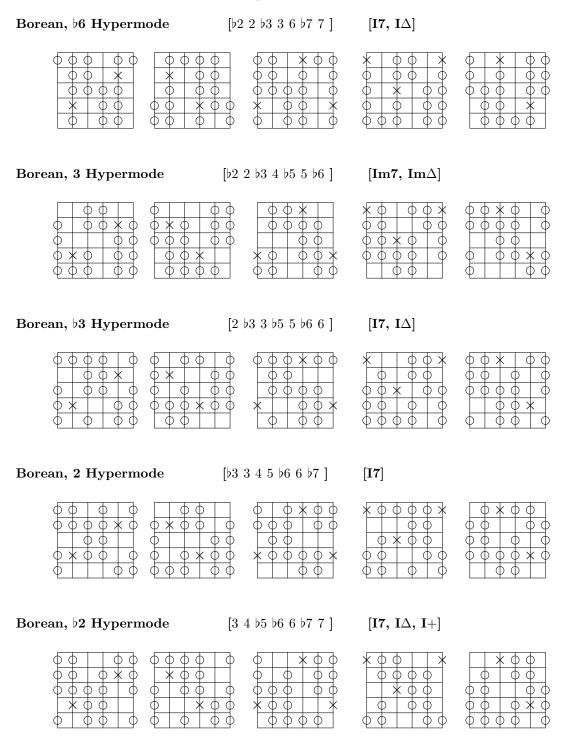




9.6 With Three Consecutive Semitones: Remaining Possibilities

The scales in this section cover all the remaining possibilities with three consecutive semitones but no more (i.e. we do not include heptatonics having four, five or six consecutive semitones). They are included mostly because they are not too numerous (there are only eight scale groups) rather than because they have known musical applications. But who knows? Weirder scales have been used in the past, and maybe you'll find an application for some of these. Because really useful names were hard to come by, and because in impressionist music long runs of chromatic notes like these are sometimes used to depict the wind, I've named each group after one of the eight gods of the winds in Greek mythology. I admit this is rather arbitrary and silly, but there it is; if you can think of better names for these scales then, as always, feel free to use them.

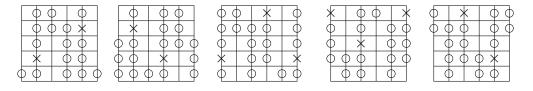
9.6.1 The Borean Scale Group



9.6.2 The Notoean Scale Group

Notoean, 6 Hypermode

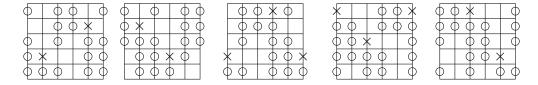
[b2 2 b3 b6 6 b7 7]



Notoean, 3 Hypermode

[b2 2 b3 3 b5 5 b6]

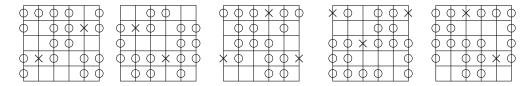
[I7, I Δ]



Notoean, 3 Hypermode

 $[2 \ b3 \ 3 \ 4 \ 5 \ b6 \ 6 \]$

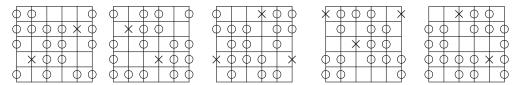
 $[\mathbf{I7}, \mathbf{I}\Delta]$



Notoean, 2 Hypermode

[b3 3 4 b5 b6 6 b7]

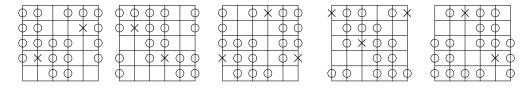
[**I7**, **I**+]



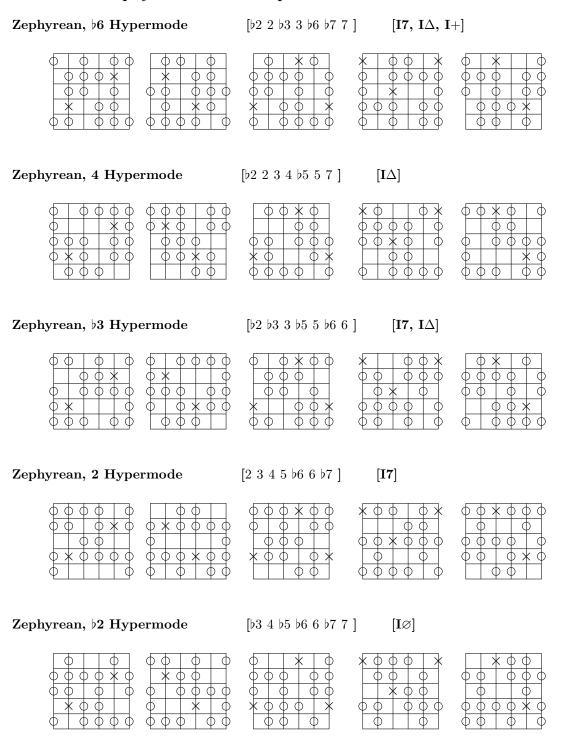
Notoean, \$\dagger\$2 Hypermode

 $[3\ 4\ b5\ 5\ 6\ b7\ 7\]$

 $[\mathbf{I7}, \mathbf{I}\Delta]$



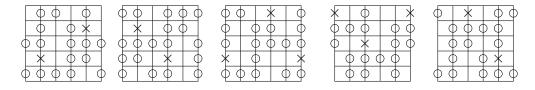
9.6.3 The Zephyrean Scale Group



9.6.4 The Eurean Scale Group

Eurean, >7 Hypermode

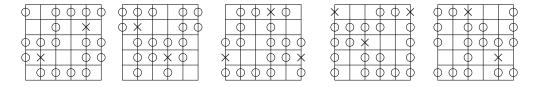
[b2 2 b5 b6 6 b7 7]



Eurean, 4 Hypermode

[b2 2 b3 3 b5 5 7]

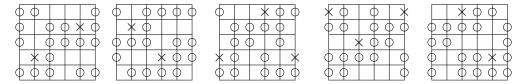
 $[\mathbf{I}\Delta]$



Eurean, 3 Hypermode

[b2 b3 3 4 b5 b6 6]

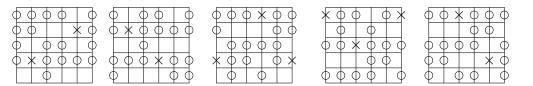
[I+]



Eurean, 2 Hypermode

[2 3 4 \(\beta 5 5 6 \(\beta 7 \)]

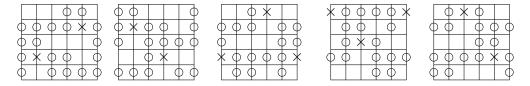
[I7]



Eurean, >2 Hypermode

[b3 4 b5 5 b6 b7 7]

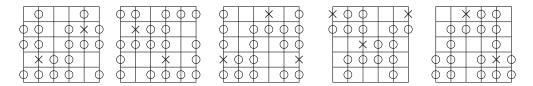
[Im7, Im Δ]



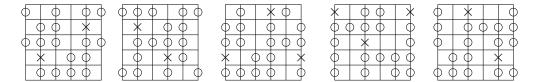
[I7, I Δ]

9.6.5 The Kaikian Scale Group

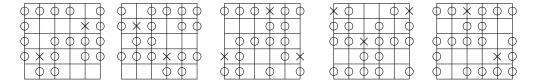
Kaikian, 7 Hypermode $[\flat 2 \ 4 \ \flat 5 \ \flat 6 \ 6 \ \flat 7 \ 7 \]$



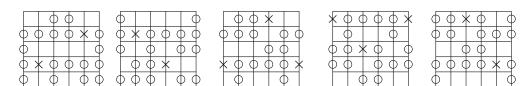
Kaikian, b5 Hypermode [b2 2 b3 3 b5 b7 7]



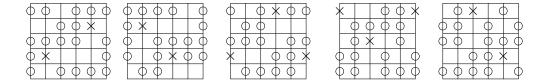
Kaikian, \flat 3 Hypermode [\flat 2 2 3 4 \flat 5 5 6] [I7, I Δ]



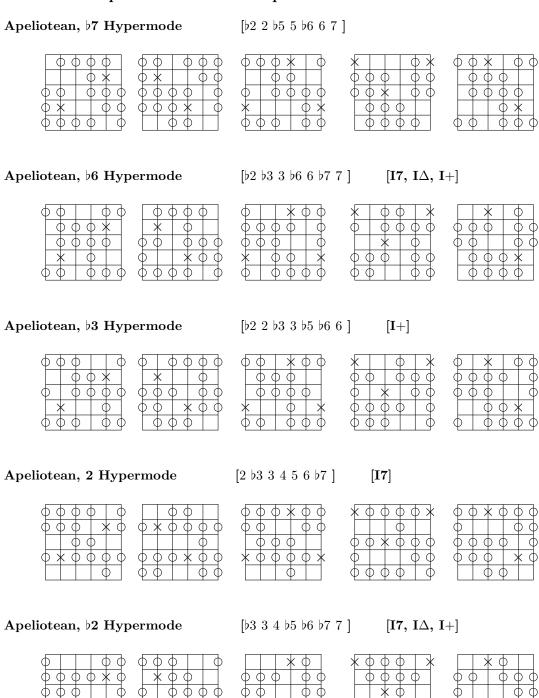
Kaikian, 2 Hypermode [2 b3 4 b5 5 b6 b7] [Im7]



Kaikian, \flat 2 Hypermode [\flat 3 3 \flat 5 5 \flat 6 6 7] [I Δ]



9.6.6 The Apeliotean Scale Group



9.6.7 The Skironean Scale Group

Skironean, \$\daggerdarthing 2 Hypermode

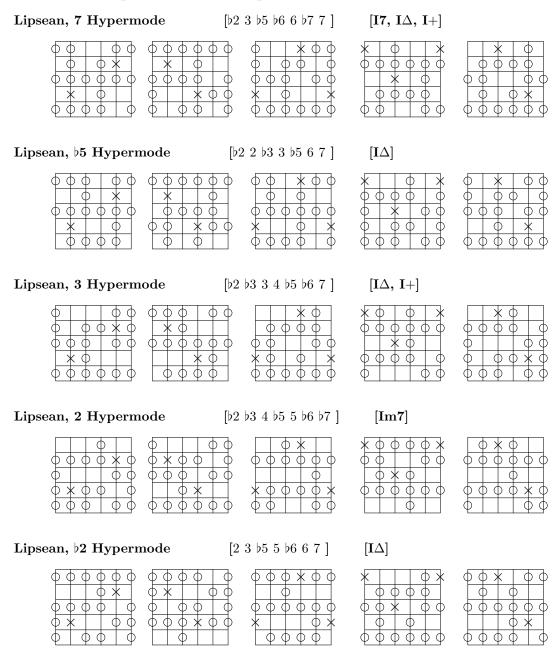
Skironean, 7 Hypermode [b2 4 b5 5 b6 b7 7] Φ ФФ [b2 2 3 b6 6 b7 7] $[\mathbf{I7},\ \mathbf{I}\Delta,\ \mathbf{I}+]$ Skironean, b6 Hypermode ФФ ΦΦ φφφ $\overline{\phi}$ Skironean, 3 Hypermode [b2 2 b3 3 b5 5 6] [I7, I Δ] Ф фф Skironean, 2 Hypermode [2 \(\beta \) 3 3 4 5 \(\beta \) 6 \(\beta \)] [I7]

[b3 3 4 b5 b6 6 7]

 $[\mathbf{I}\Delta, \mathbf{I}+]$

ф ф * Ф

9.6.8 The Lipsean Scale Group



10

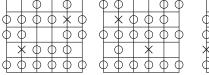
Octatonics I: Two Consecutive Semitones

10.1 The Major Add b6 Scale Group

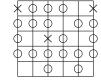
Mixolydian Add $\flat 2$, 7 Hypermode

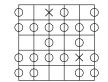
[b2 2 b3 4 b5 b6 b7 7]

 $[\mathbf{I}\varnothing]$





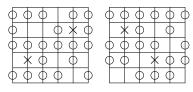




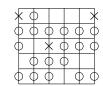
Mixolydian Add \$2, \$6 Hypermode

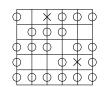
[b2 2 3 4 b5 b6 6 7]

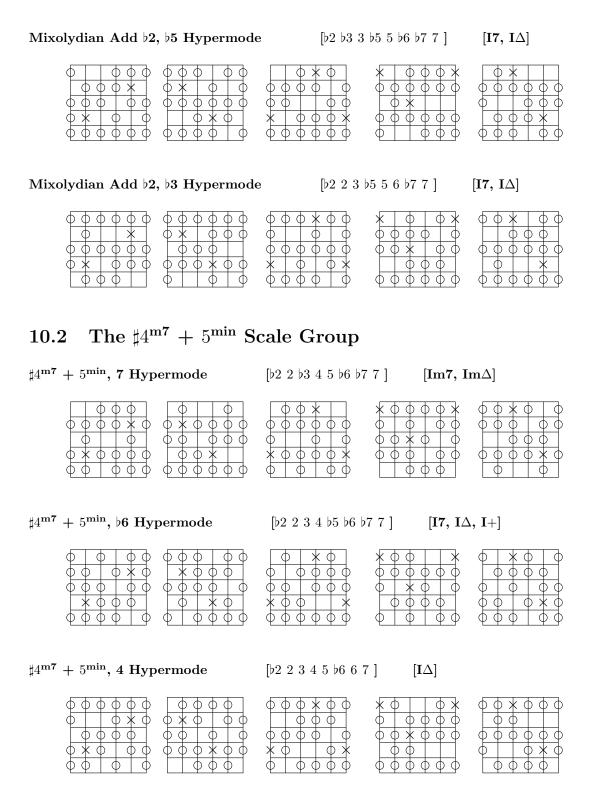
 $[\mathbf{I}\Delta,\ \mathbf{I}+]$

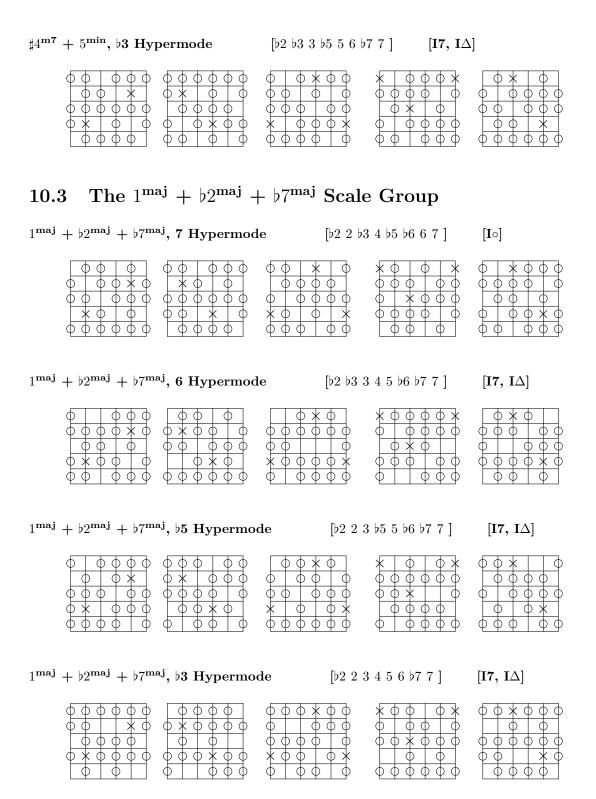




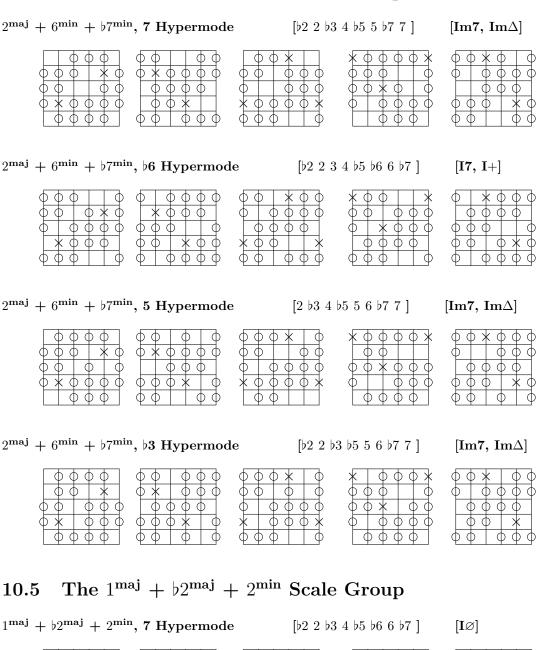








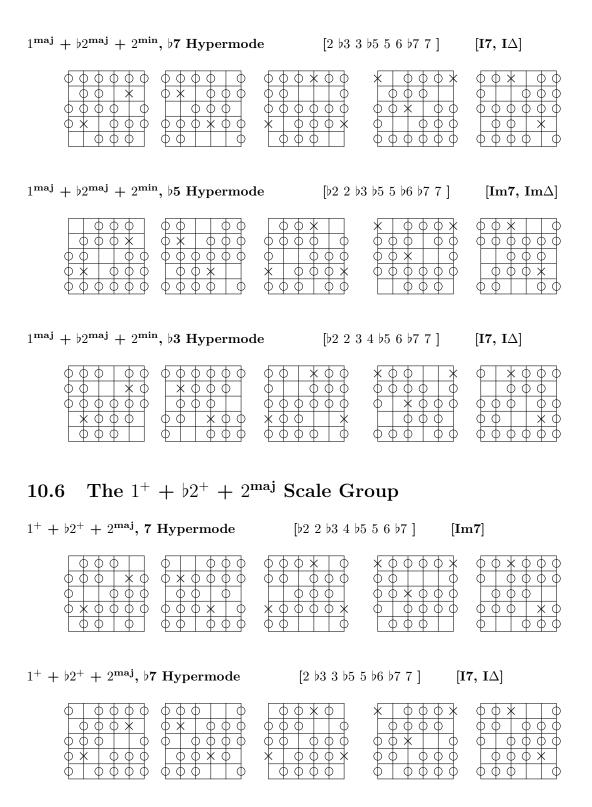
10.4 The $2^{\text{maj}} + 6^{\text{min}} + \flat 7^{\text{min}}$ Scale Group

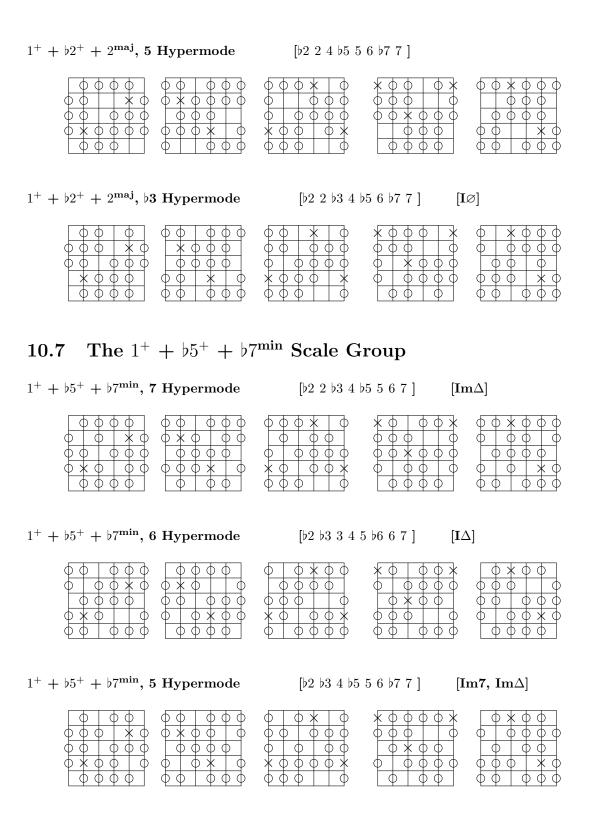


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Octatonics II: Three Consecutive Semitones

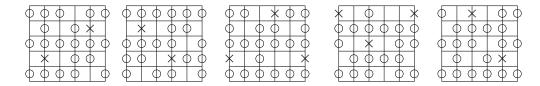
11.1 The Major Scale with an Added Note

11.1.1 The Major Add 2 Scale Group

Major Add \$2, \$7 Hypermode

[b2 2 3 b5 b6 6 b7 7]

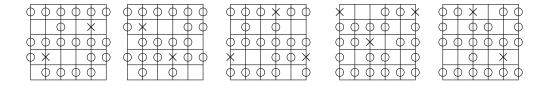
 $[\mathbf{I7},\ \mathbf{I}\Delta,\ \mathbf{I}+]$

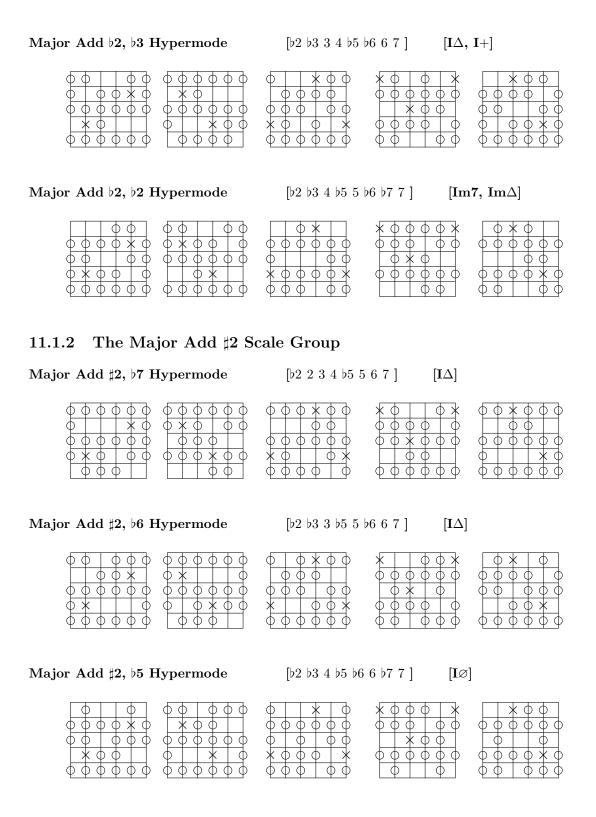


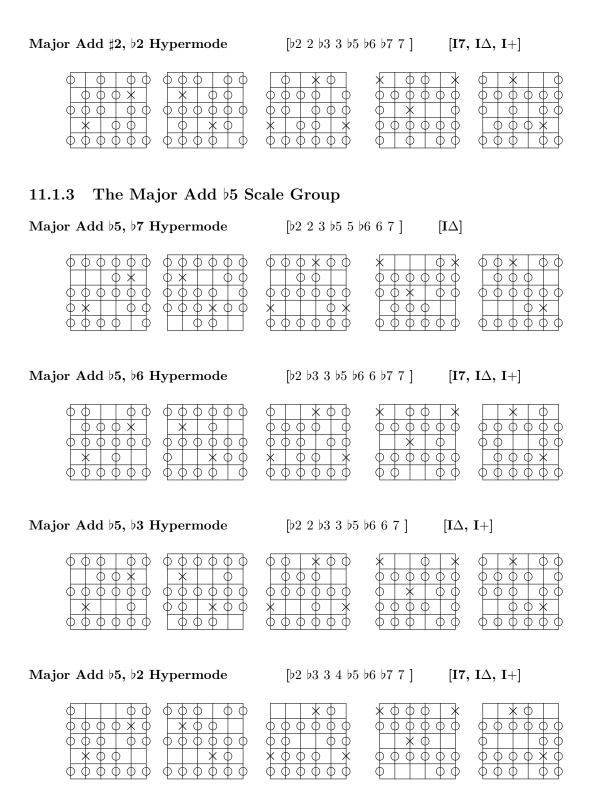
Major Add \$2, 4 Hypermode

[b2 2 b3 3 b5 5 6 7]

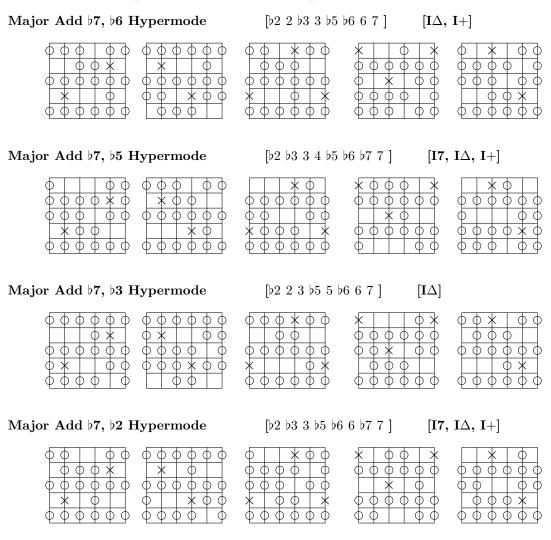
 $[\mathbf{I}\Delta]$





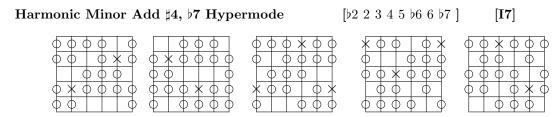


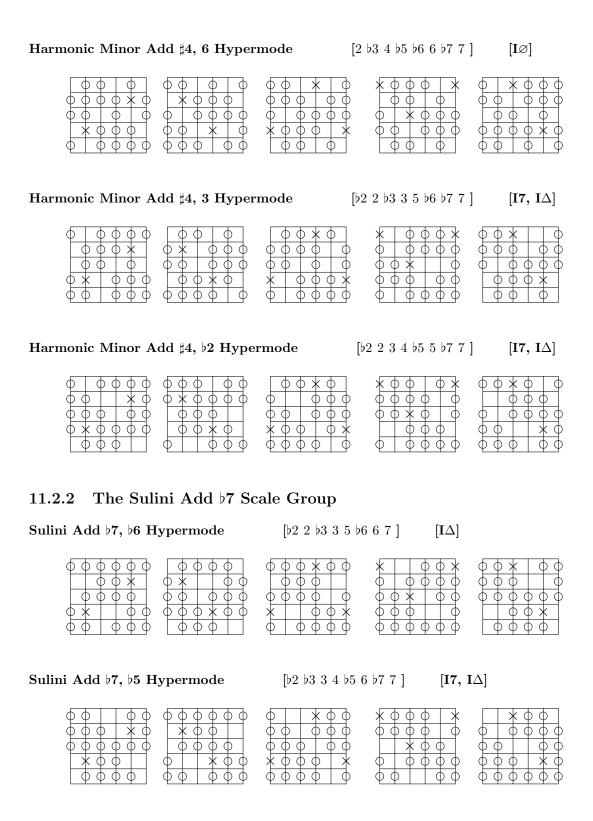
11.1.4 The Major Add 57 Scale Group

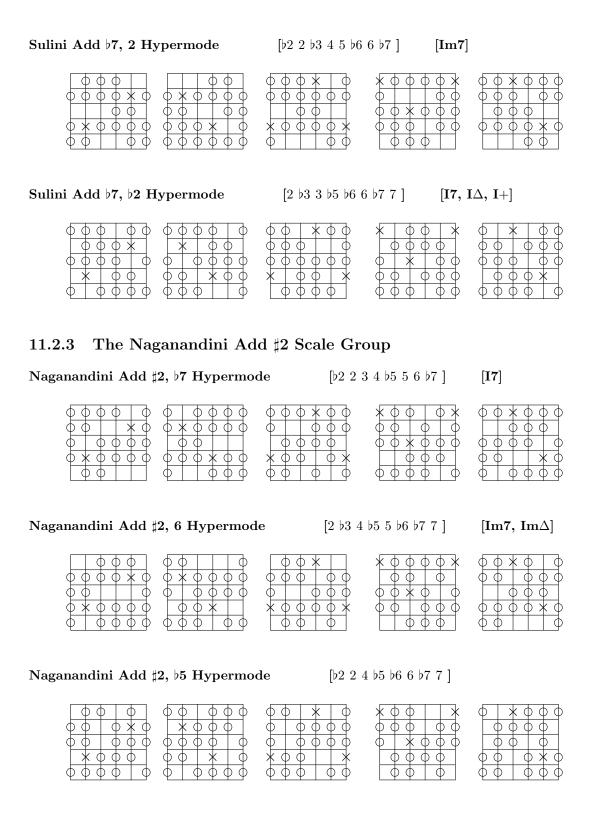


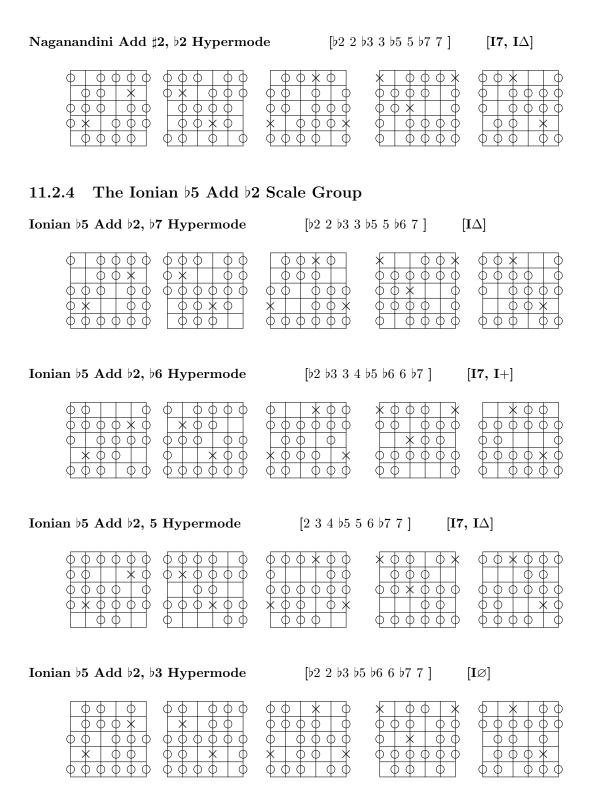
11.2 Other Octatonics

11.2.1 The Harmonic Minor Add #4 Scale Group

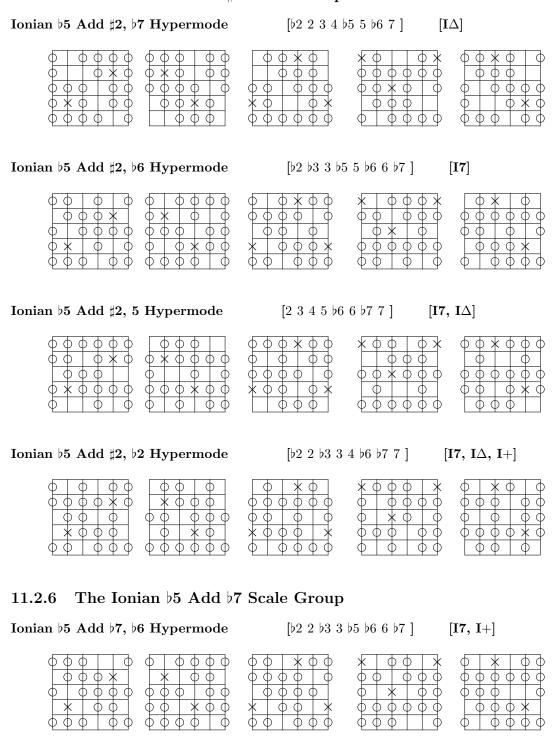


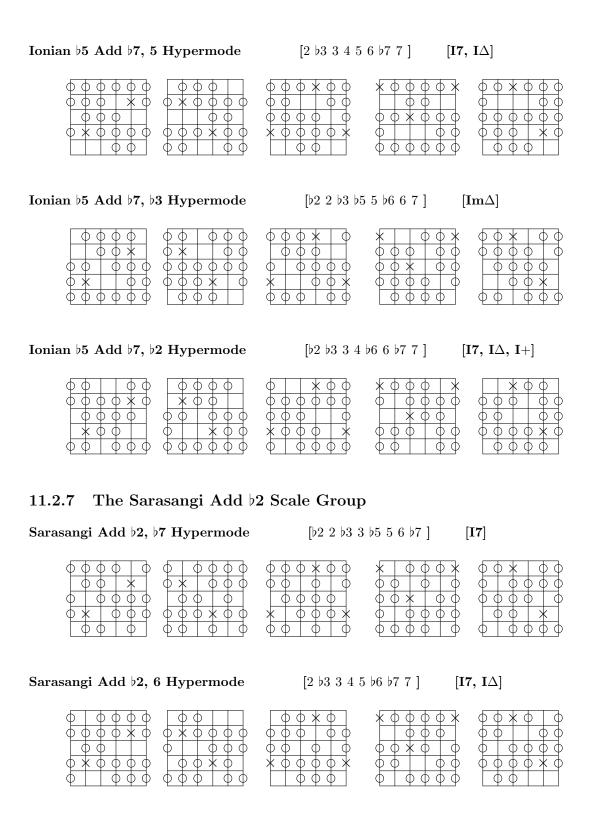


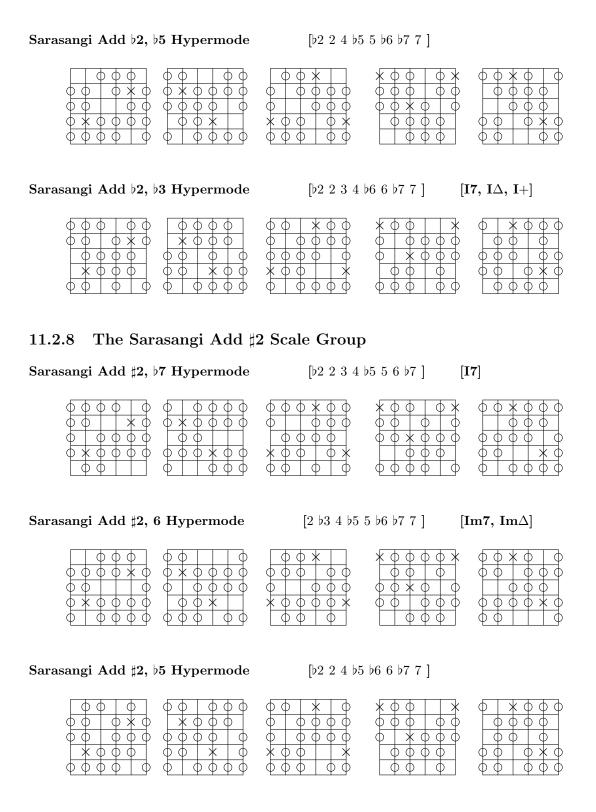


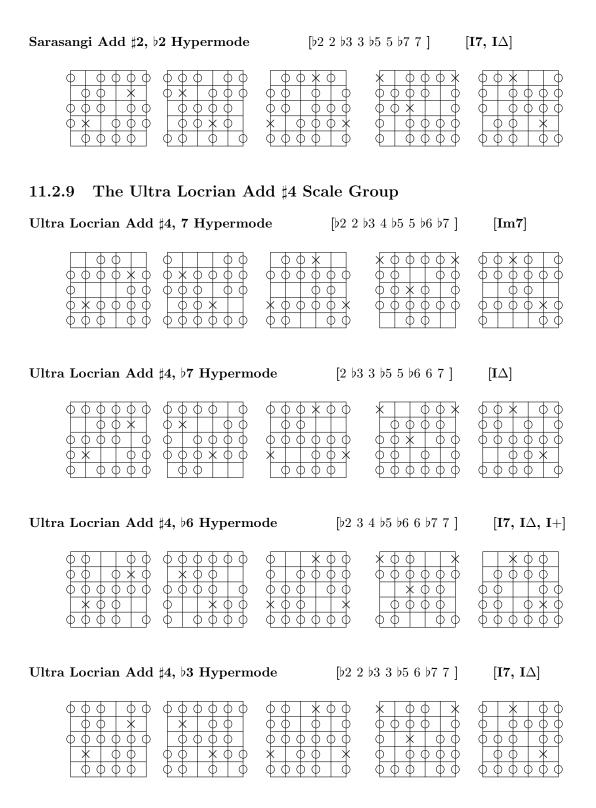


11.2.5 The Ionian \flat 5 Add \sharp 2 Scale Group

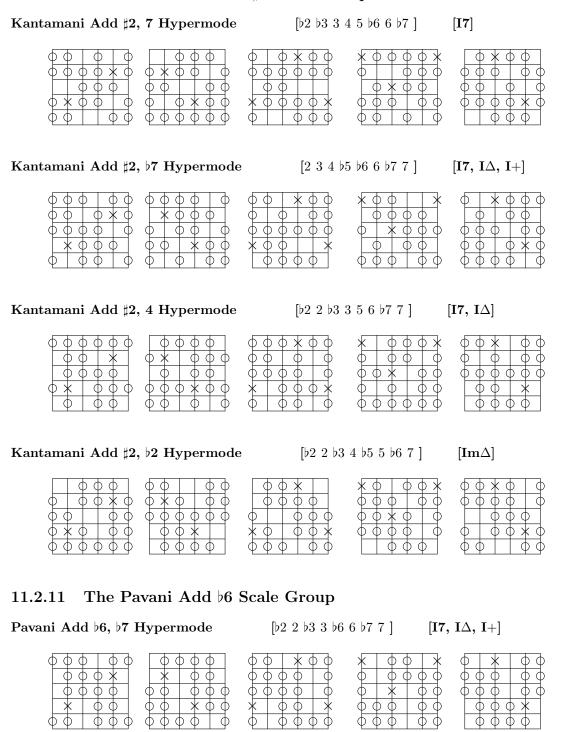


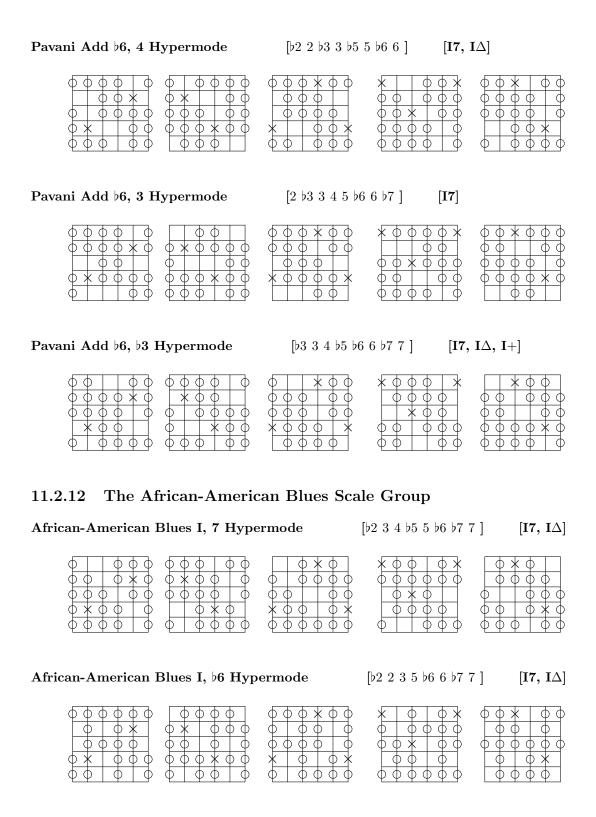


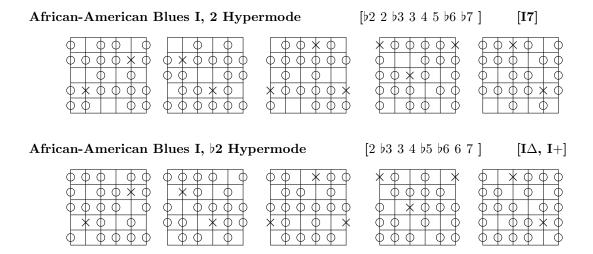




11.2.10 The Kantamani Add #2 Scale Group

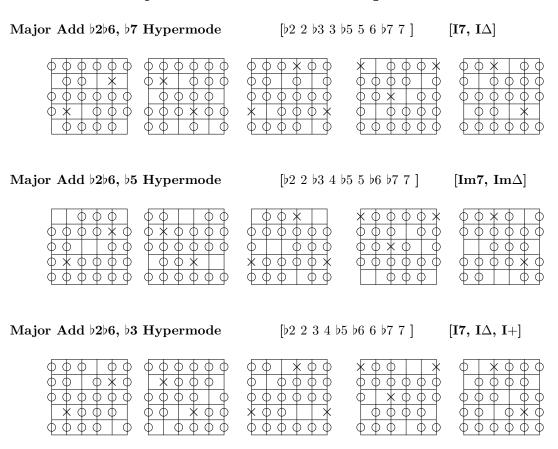




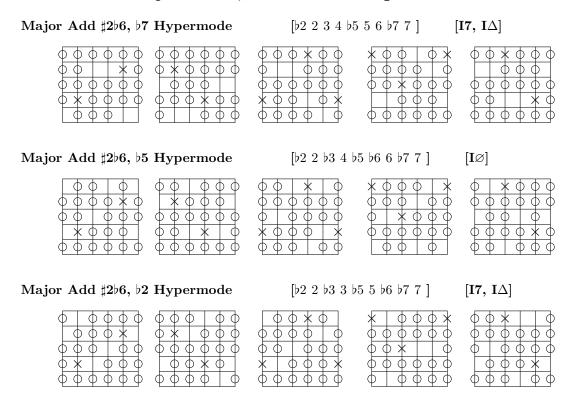


Nonatonics

12.1 The Major Add \$2\dd Scale Group



12.2 The Major Add #2\(\phi\)6 Scale Group

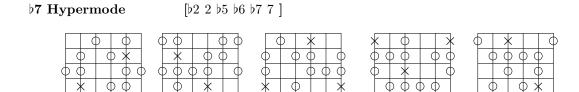


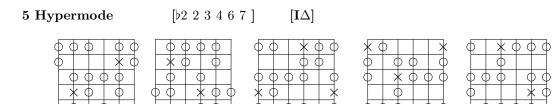
Part III Hexatonics

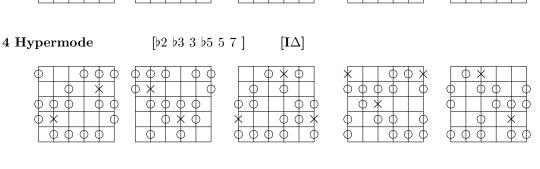
13 Variant Sets

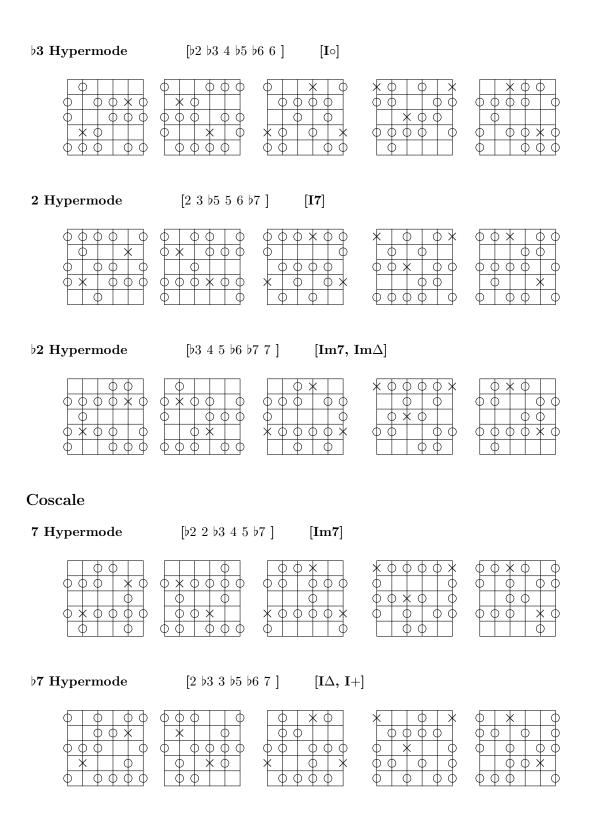
13.1 The 100010101101 Scale Set

Original Scale





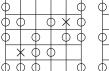




♭6 Hypermode

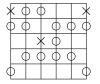
[b2 3 4 b5 b6 b7]

[I7, I+]











5 Hypermode

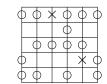
[2 4 \(\beta\)5 5 6 7]











4 Hypermode

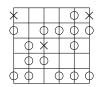
[b2 3 5 b6 6 7]

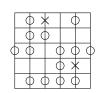
 $[\mathbf{I}\Delta]$











♭3 Hypermode

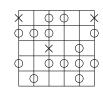
[b2 b3 b5 6 b7 7]

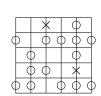
 $[\mathbf{I}\varnothing]$











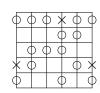
Reflection

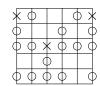
♭7 Hypermode

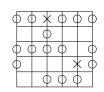
[I7, I Δ]

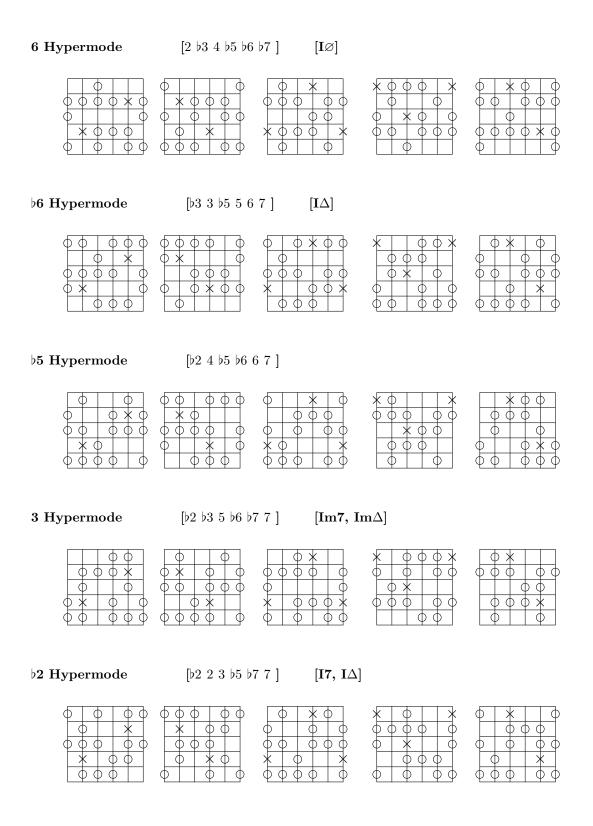




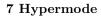






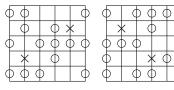


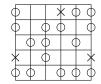
Coscale Reflection



[b2 3 b5 b6 6 b7]

[I7, I+]









♭7 Hypermode

 $[2\ 4\ 5\ 6\ b7\ 7\]$











♭5 Hypermode

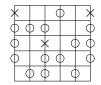
[b2 2 b3 b5 6 7]

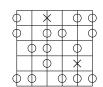












3 Hypermode

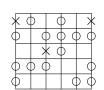
[b2 b3 3 4 b6 7]

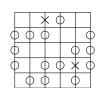
 $[\mathbf{I}\Delta,\ \mathbf{I}+]$











2 Hypermode

[b2 b3 4 b5 5 b7]

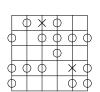
[Im7]

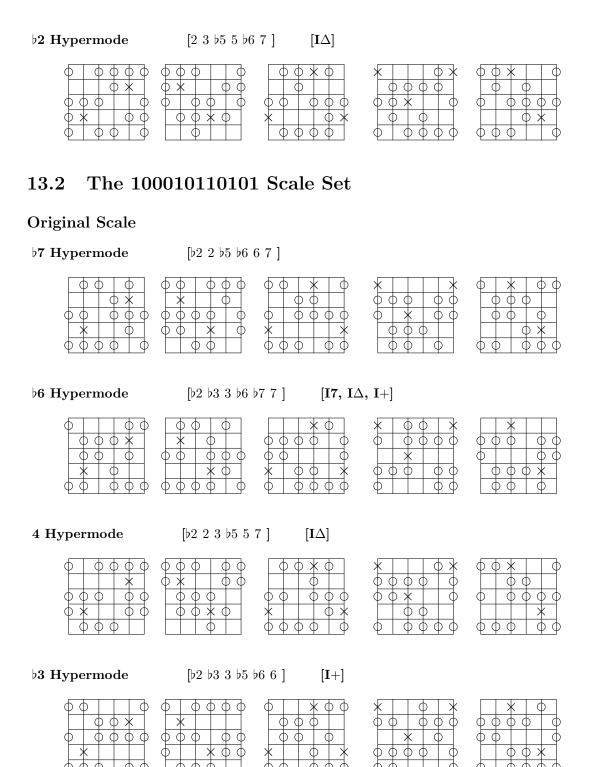




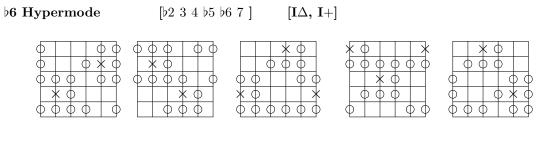


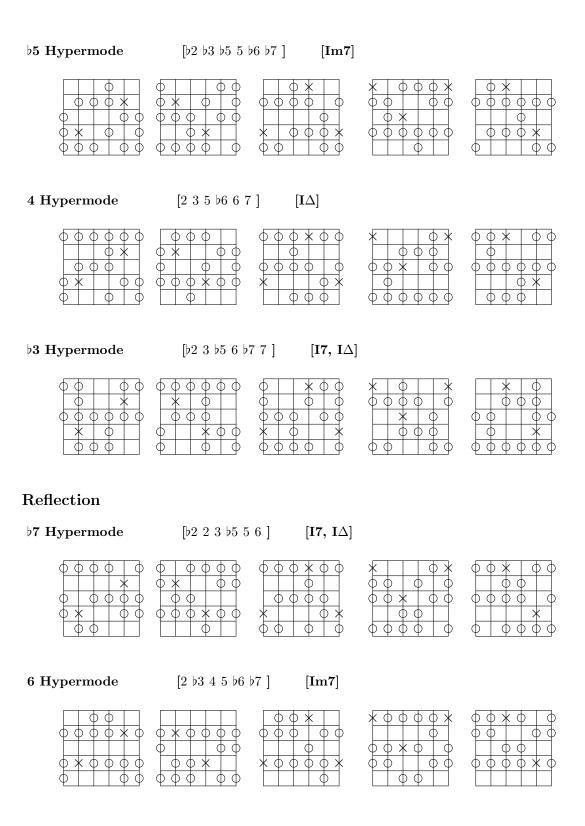


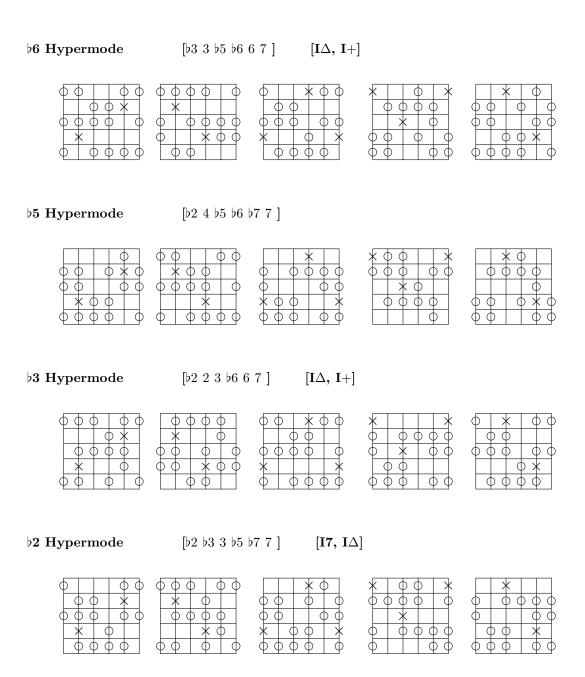




2 Hypermode $[2\ 3\ 4\ 5\ 6\ b7\]$ [I7]фф $\overline{\phi}$ Φ **½** Hypermode [b3 4 b5 b6 b7 7] $[\mathbf{I}\varnothing]$ Ф Ф ФФ $\star \Phi$ ффф Coscale 7 Hypermode [b2 2 b3 4 b6 b7] $\overline{\Phi} \phi \star \phi$ ФФФ ф ФФ Φ *Ф ф Ф $\phi \phi \phi \phi$ [2 \(\beta \) 3 3 \(\beta \) 6 7] $[\mathbf{I}\Delta]$ ♭7 Hypermode





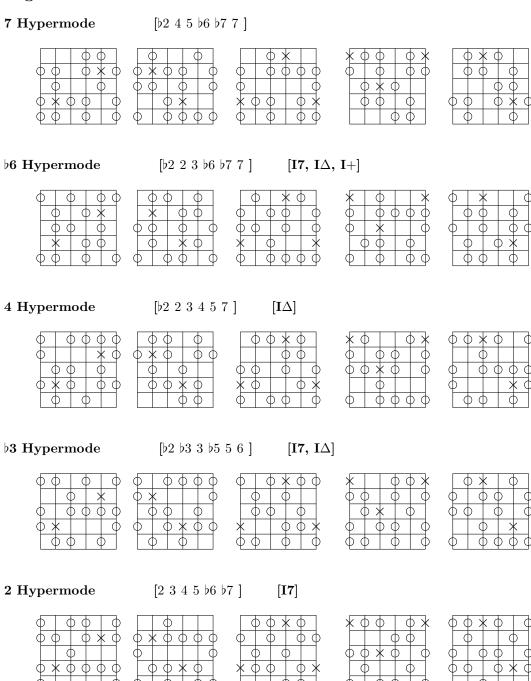


Coscale Reflection

This scale group is the same as the Blues Scale Group we mentioned in Part I; a minor pentatonic with added $\flat 5$, which acts as a blue note. The diagrams are not, therefore, reprinted here.

13.3 The 100010110110 Scale Set

Original Scale



2 Hypermode

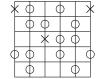
[b3 4 b5 b6 6 7]

 $[\mathbf{I} \circ]$











Coscale

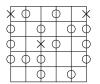
7 Hypermode

[b2 2 b3 4 b6 7]











${\bf 6}~{\bf Hypermode}$

[b2 b3 3 4 5 b7]

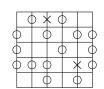
[I7]











$\flat 6$ Hypermode

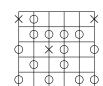
[2 3 4 \(\beta 5 \) \(\beta 6 7 \)]

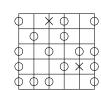
 $[\mathbf{I}\Delta,\ \mathbf{I}+]$











5 Hypermode

[b2 3 b5 5 b6 b7]

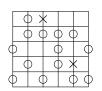
[I7]

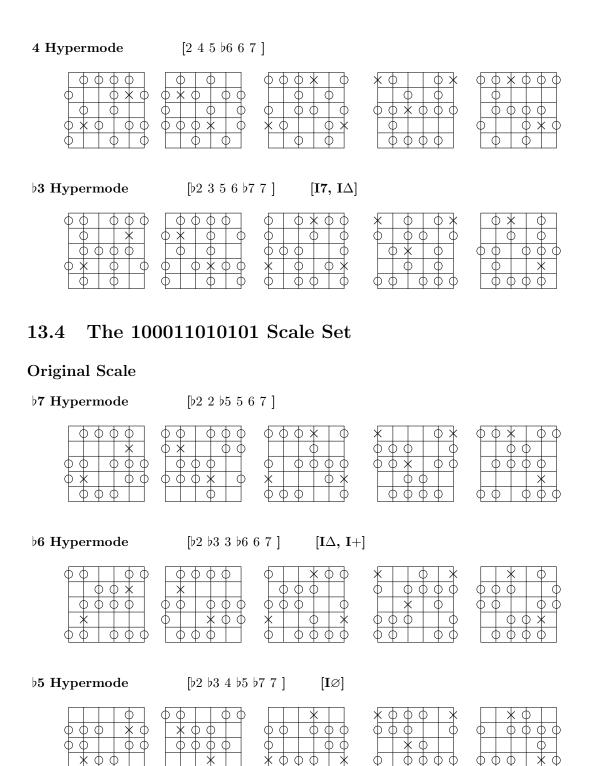


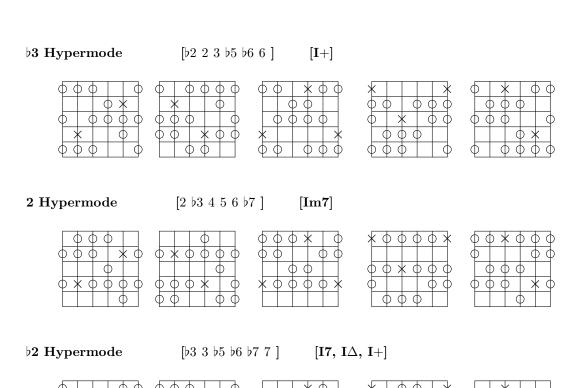




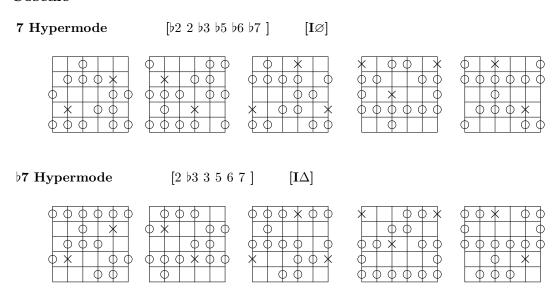


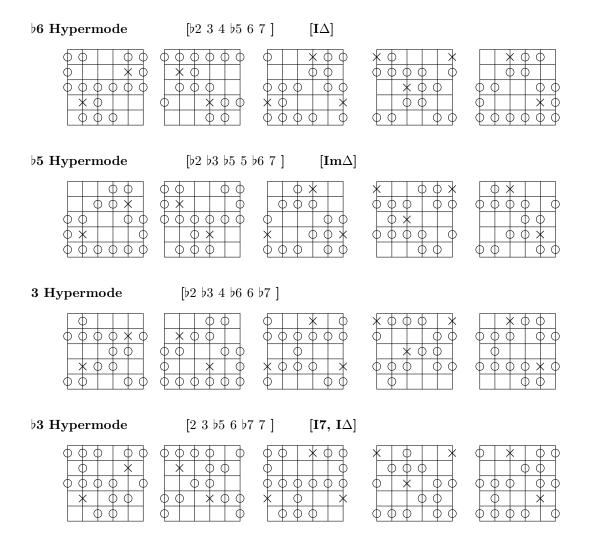






Coscale





14

Containing a Major Third

14.1 Containing a Minor Third

14.1.1 The 100011001101 Scale Set

Original Scale

♭7 Hypermode

[b2 2 b5 5 b7 7]











5 Hypermode

[b2 2 3 4 6 b7]

[I7]

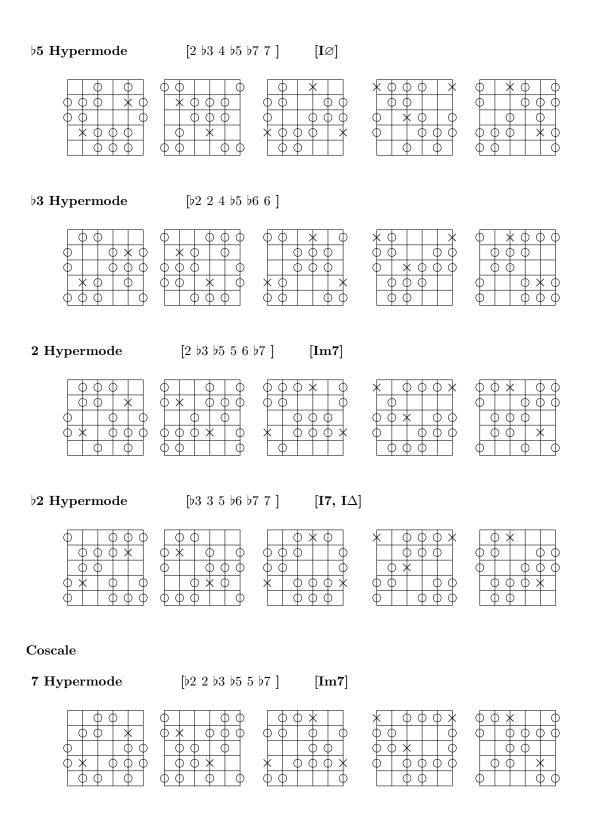








()			>	k)	()	(þ
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(5	(Б	(Б				(þ
	5	(Б				>	<	(þ
			Г	(Б	5	(



♭7 Hypermode [2 \(\beta \) 3 3 5 \(\beta \) 6 7] $[\mathbf{I}\Delta]$ ФФ 6 Hypermode [b2 3 4 b5 6 b7] [I7] $\overline{\phi}$ $\overline{\phi}$ ФФ 0000 * Ф фф Φ Φ фф ФФ 5 Hypermode [2 4 \(\beta \) 5 5 \(\beta \) 7 7] фф $\phi \phi \star \phi$ ФФ φ 4 4 фф 3 Hypermode [b2 2 4 b6 6 b7] $\phi * \phi$ 0 0 фф <u></u> ФФ 3 Hypermode [2 \(\beta\)3 \(\beta\)5 6 \(\beta\)7 7] $[\mathbf{I}\varnothing]$

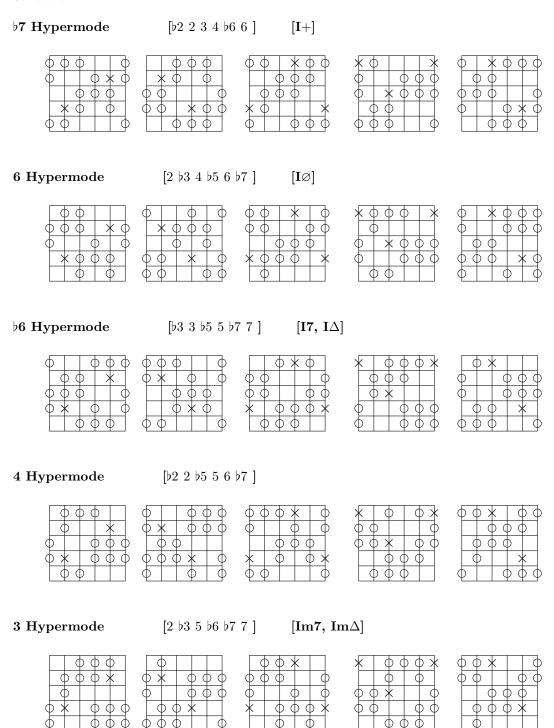
ф

 $\begin{array}{c|c}
\phi & \phi \\
\hline
\phi & \phi
\end{array}$

 $\phi \phi \phi$

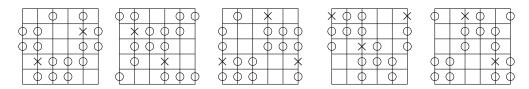
φ

Reflection



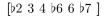
2 Hypermode

[b2 2 4 b5 b7 7]

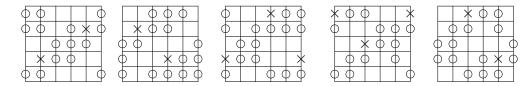


Coscale Reflection

7 Hypermode

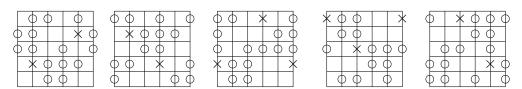


[I7, I+]



♭7 Hypermode

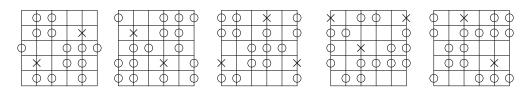
 $[2\ 4\ b5\ 6\ b7\ 7\]$



5 Hypermode

[b2 2 b3 b5 6 b7]

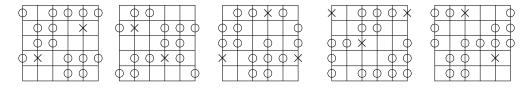
 $[\mathbf{I}\varnothing]$

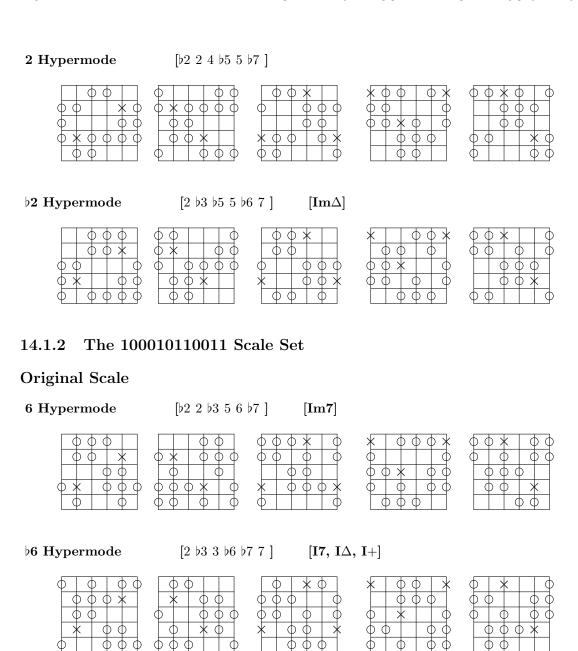


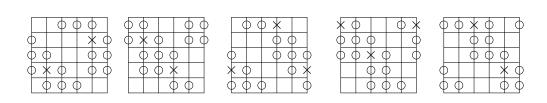
4 Hypermode

 $[2 \ b3 \ 3 \ 5 \ b7 \ 7 \]$

[I7, I Δ]



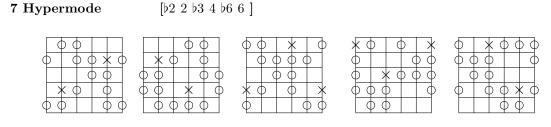


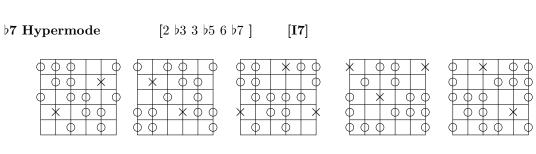


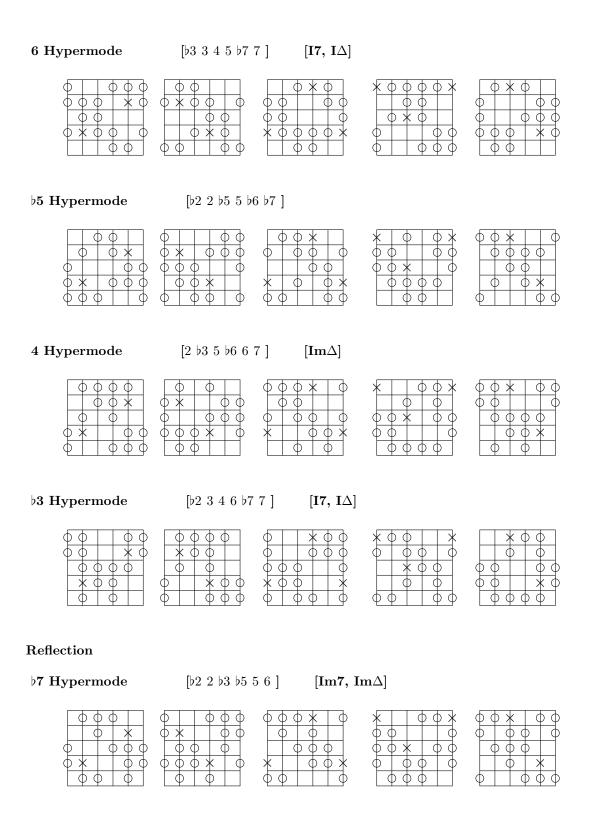
[b2 2 4 b5 5 7]

4 Hypermode

Coscale







Ф

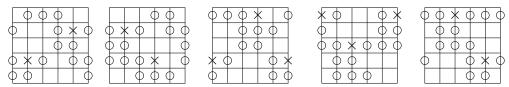
φφφ

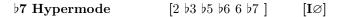
ФФ

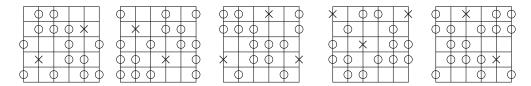
6 Hypermode $[2 \ b3 \ 3 \ 5 \ b6 \ b7 \]$ [I7][\beta 3 4 \beta 6 6 7] 6 Hypermode $[\mathbf{I}\Delta,\ \mathbf{I}+]$ $\overline{*} \Phi \Phi$ фф **5** Hypermode [b2 4 b5 5 b7 7] $\phi \star \phi$ φφ [**I7**, **I**+] 3 Hypermode [b2 2 3 b6 6 b7] φφφ **х** Ф Ф $\phi \phi \phi$ $\phi \phi \phi$ 2 Hypermode [2 \(\beta \) 4 6 \(\beta \) 7]

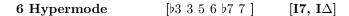
Coscale Reflection

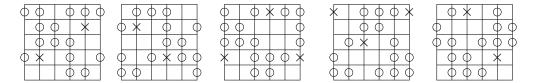




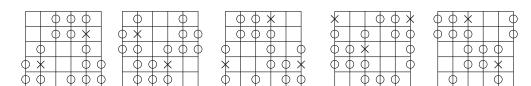




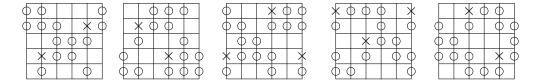


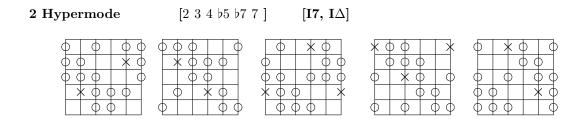


4 Hypermode $[\flat 2 \ 2 \ \flat 3 \ 5 \ \flat 6 \ 7 \]$ $[Im\Delta]$

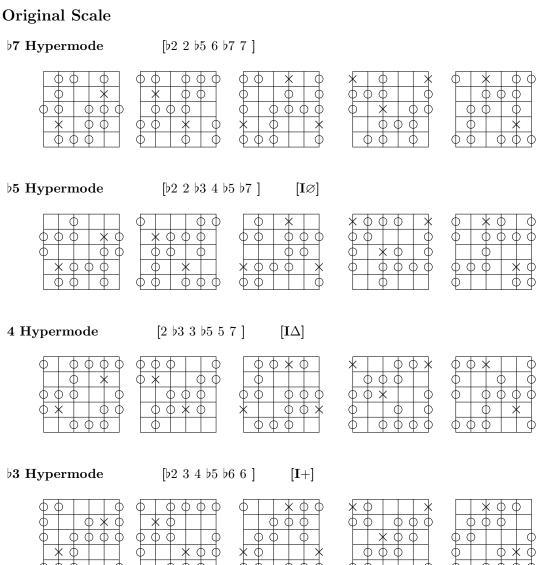


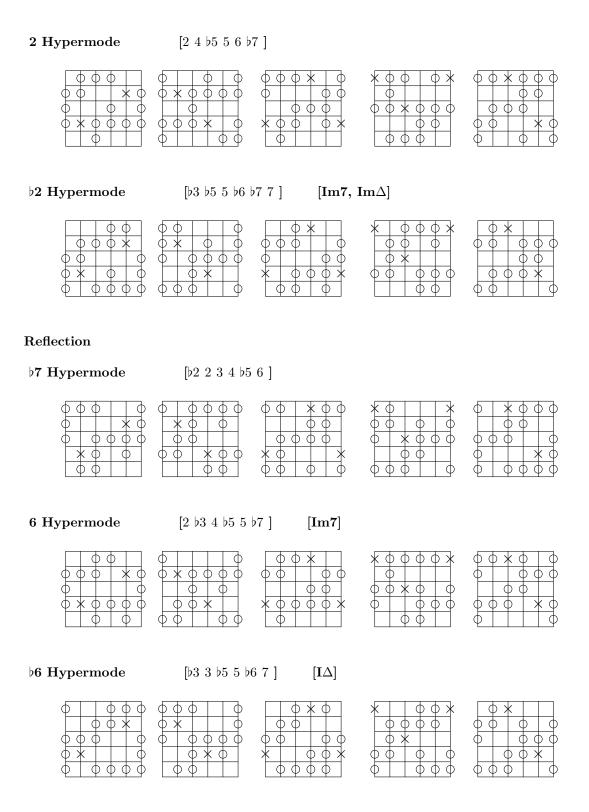
b3 Hypermode [b2 b3 3 4 6 b7] [I7]



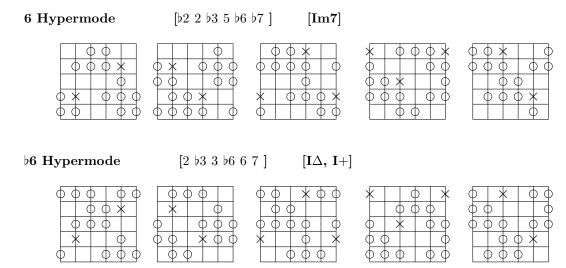


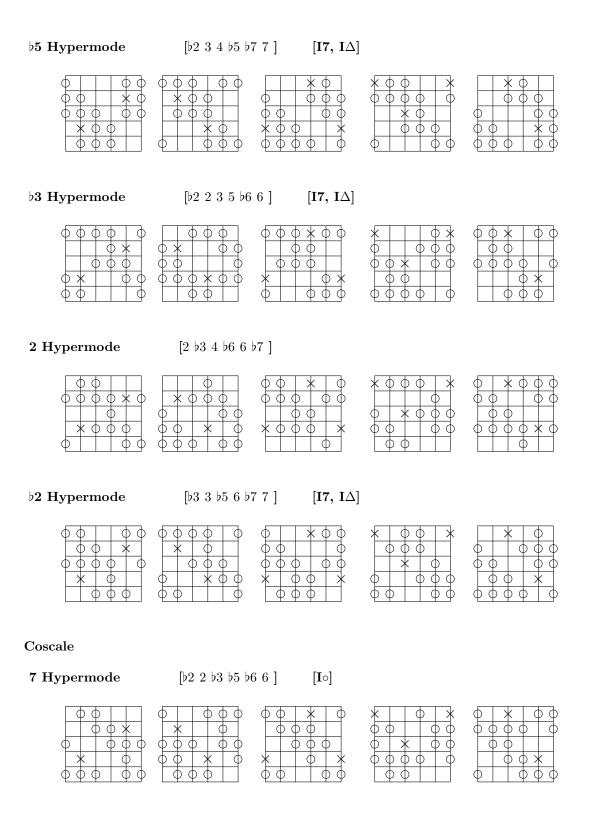
The 100010011101 Scale Set 14.1.3





5 Hypermode [b2 4 b5 b6 6 b7] $\phi \phi \phi$ φ ФФ 4 Hypermode [2 \(\beta \) 5 5 6 \(\beta \) 7 7] фф ΦФ ΦΦ **2** Hypermode [b2 2 b3 b5 b7 7] $[\mathbf{I}\varnothing]$ $\phi \phi \phi$ ф фф ф 14.1.4 The 100011010011 Scale Set





ФФ

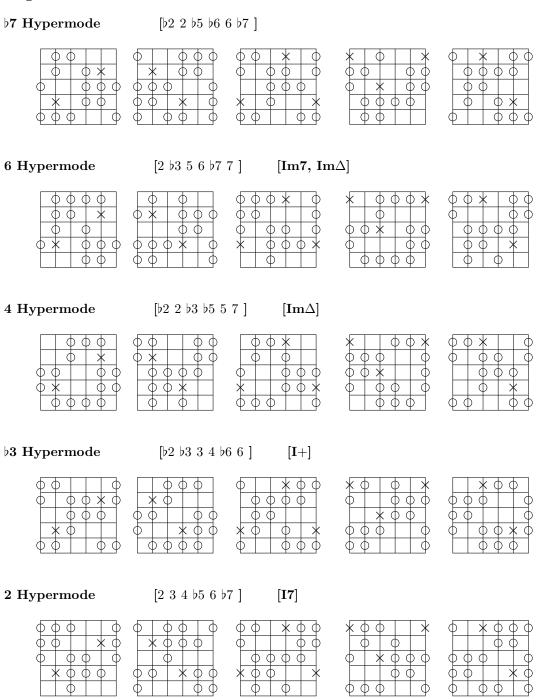
ФФ

фф

♭7 Hypermode $[2 \ b3 \ 3 \ 5 \ 6 \ b7 \]$ [I7]фф $[\mathbf{I7},\ \mathbf{I}\Delta,\ \mathbf{I}+]$ 6 Hypermode [b3 3 4 b6 b7 7] ΦΦΦ фф Φ **5** Hypermode [b2 2 b5 5 b6 7] ффф ффф ффф ффф ФФ $[b2 \ b3 \ 3 \ b6 \ 6 \ b7 \]$ [I7, I+] 3 Hypermode ΦΦ $\phi \phi \phi$ фф 3 Hypermode $[2\ 3\ 4\ 6\ b7\ 7\]$ [I7, I Δ] φφ

 $\times \phi \phi \phi$

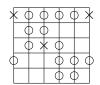
14.1.5 The 100010111001 Scale Set





[b3 4 b5 5 b7 7]

[Im7, ImΔ]





Coscale

7 Hypermode

[b2 2 b3 4 6 b7]











♭7 Hypermode

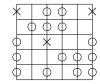
[2 \(\beta \) 3 3 \(\beta \) 5 \(\beta \) 7]

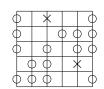










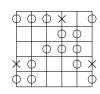


5 Hypermode

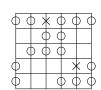
[b2 2 4 b5 5 6]











5 Hypermode

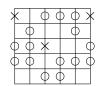
[2 \(\beta \) \(\

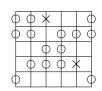
[Im7]

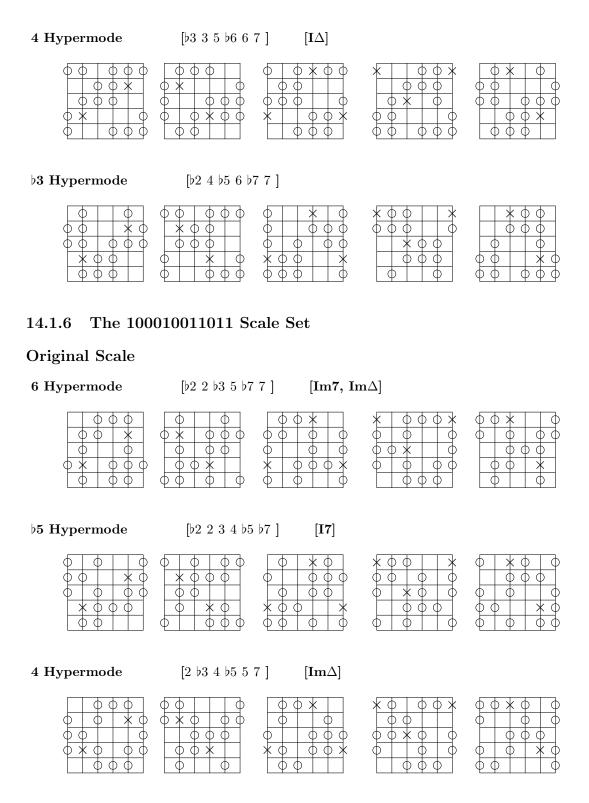








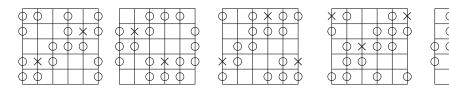




 $\flat 3$ Hypermode

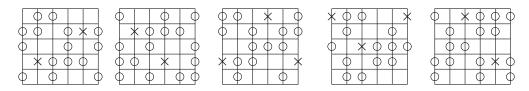
[b2 3 4 5 b6 6]

 $[\mathbf{I7}, \ \mathbf{I}\Delta]$



2 Hypermode

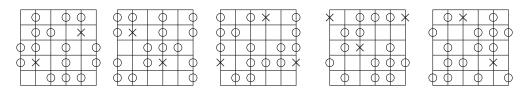
[2 4 \(\beta 5 \) \(\beta 6 \) \(\beta 7 \)]



2 Hypermode

[b3 b5 5 6 b7 7]

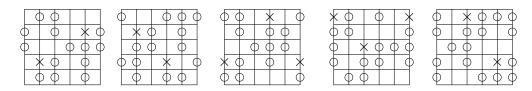
 $[{
m Im}7,\ {
m Im}\Delta]$



Coscale

${\bf 7}~{\bf Hypermode}$

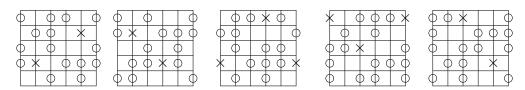
 $[b2 \ 2 \ b3 \ 4 \ b5 \ 6 \]$ $[I \circ]$

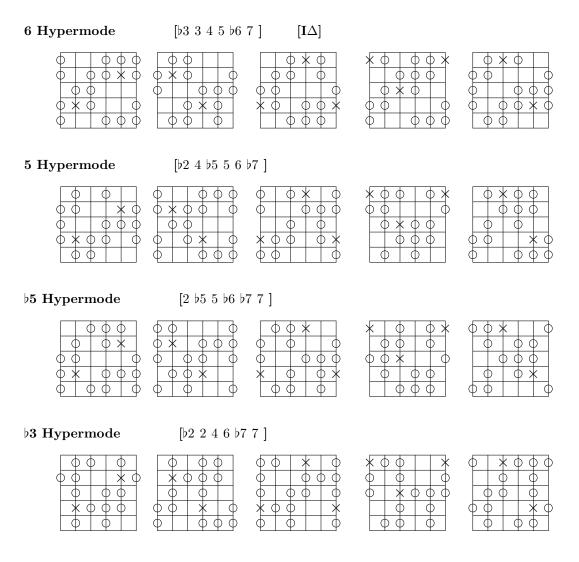


♭7 Hypermode

[2 \(\beta \) 3 3 \(\beta \) 5 5 \(\beta \)]

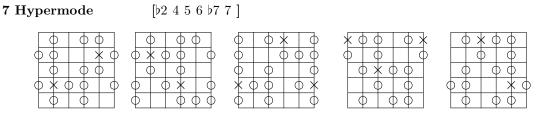
[I7]





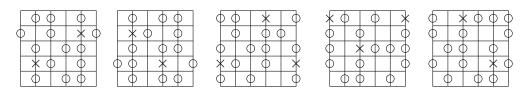
14.2 Containing No Minor Thirds

14.2.1 The 100010101110 Scale Set



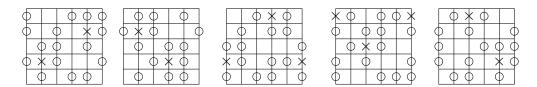
5 Hypermode

[b2 2 b3 4 6 7]



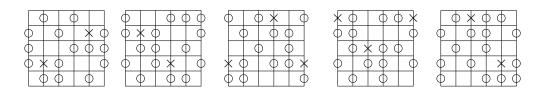


 $[b2 \ b3 \ 3 \ 4 \ 5 \ 7 \]$ $[I\Delta]$



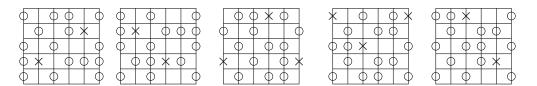
♭3 Hypermode

 $[b2 \ b3 \ 4 \ b5 \ 5 \ 6 \]$ [Im7, Im Δ]



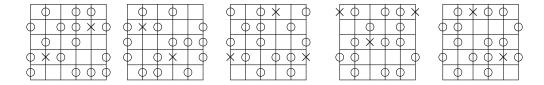
2 Hypermode

$[2 \ 3 \ b5 \ 5 \ b6 \ b7 \]$ [I7]

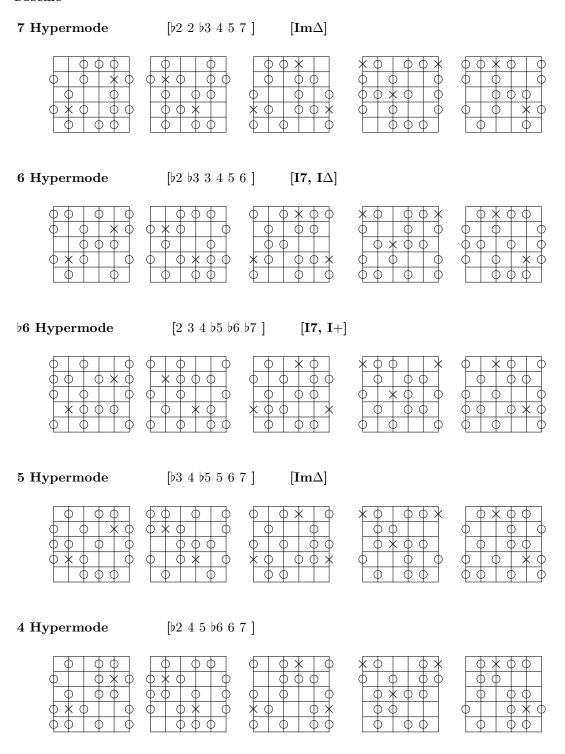


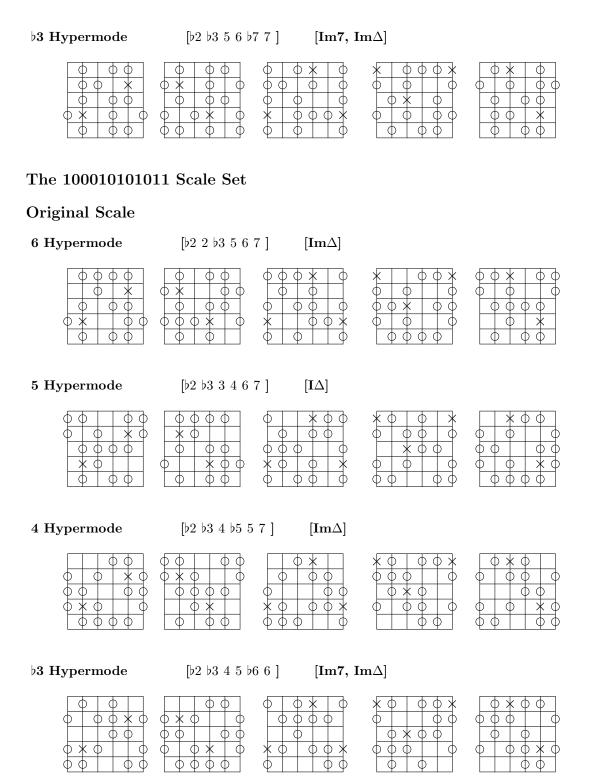
2 Hypermode

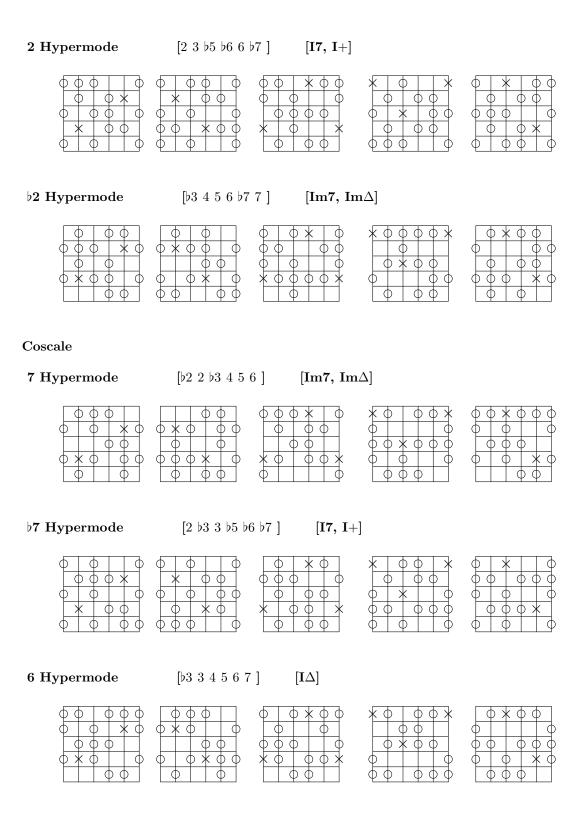
 $[\flat 3 \ 4 \ 5 \ \flat 6 \ 6 \ 7 \] \qquad [\mathbf{Im}\Delta]$



Coscale

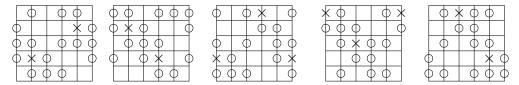






5 Hypermode

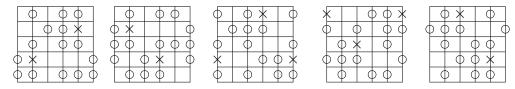
[b2 4 b5 5 6 7]



4 Hypermode

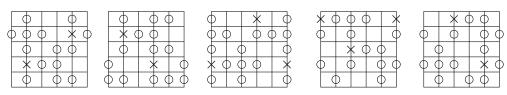
[b2 b3 5 b6 6 7]

 $[\mathbf{Im}\Delta]$



3 Hypermode

[b2 b3 4 6 b7 7]



Without a Major Third

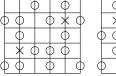
15.1 Containing Two Minor Thirds

15.1.1 The 100100101101 Scale Set

Original Scale

♭7 Hypermode

[b2 2 4 b6 b7 7]











5 Hypermode

[b2 2 3 4 b6 7]

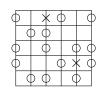
 $[\mathbf{I}\Delta, \mathbf{I}+]$

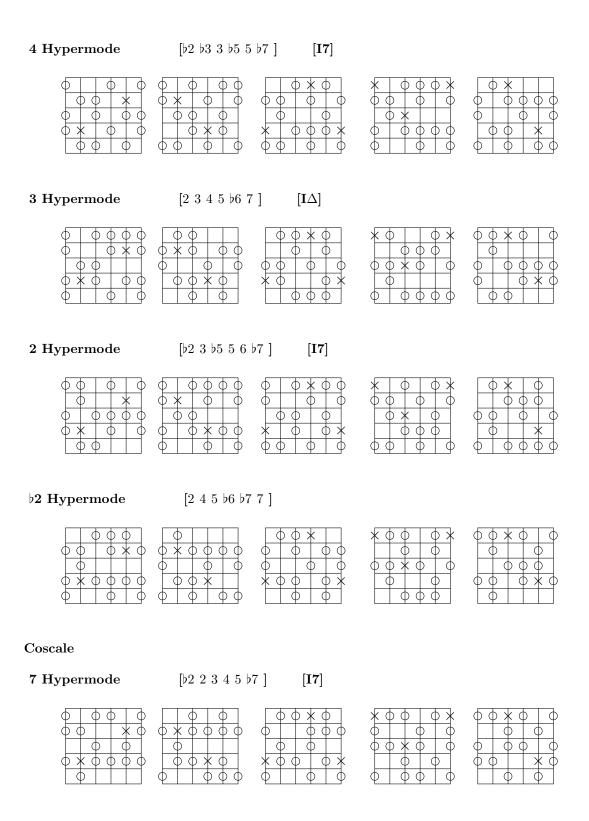






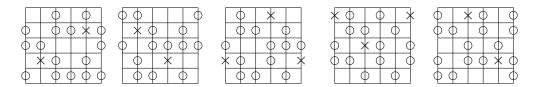


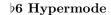




7 Hypermode

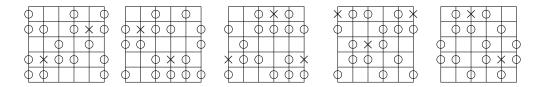
[2 \(\beta \) 4 \(\beta \) \(\beta \) 6 7]





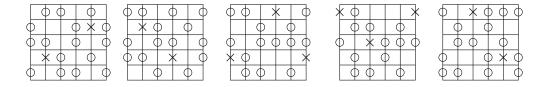
[b2 3 4 5 b6 b7]

[I7]



5 Hypermode

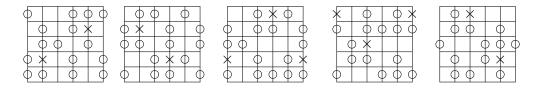
[2 4 \(\beta 5 \) \(\beta 6 6 7 \)]



4 Hypermode

[b2 3 5 b6 b7 7]

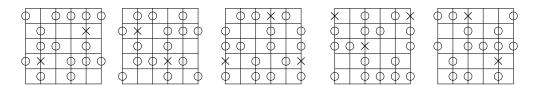
[I7, I Δ]



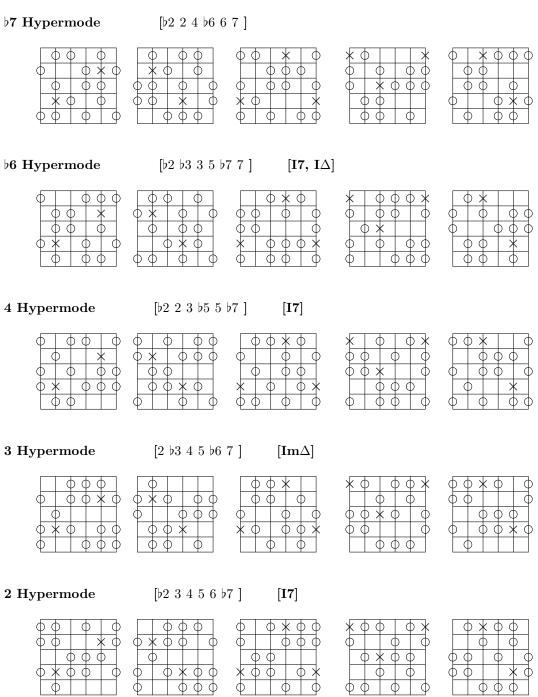
2 Hypermode

[b2 2 3 5 b7 7]

$[\mathbf{I7}, \mathbf{I}\Delta]$

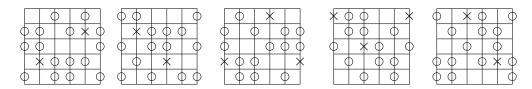


15.1.2 The 100100110101 Scale Set



♭2 Hypermode

[2 4 \(\beta 5 \) \(\beta 6 \) \(\beta 7 \)]

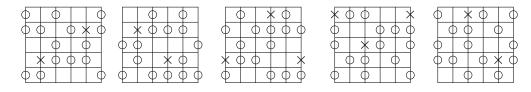


Coscale

7 Hypermode

[b2 2 3 4 b6 b7]

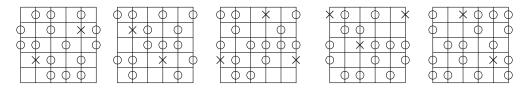
[**I7**, **I**+]



♭7 Hypermode

[2 \(\beta \) 4 \(\beta \) 6 7]

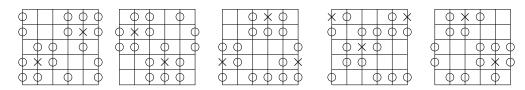
 $[\mathbf{I} \circ]$



♭6 Hypermode

[b2 3 4 5 b6 7]

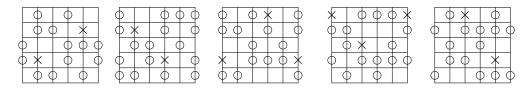
 $[\mathbf{I}\Delta]$

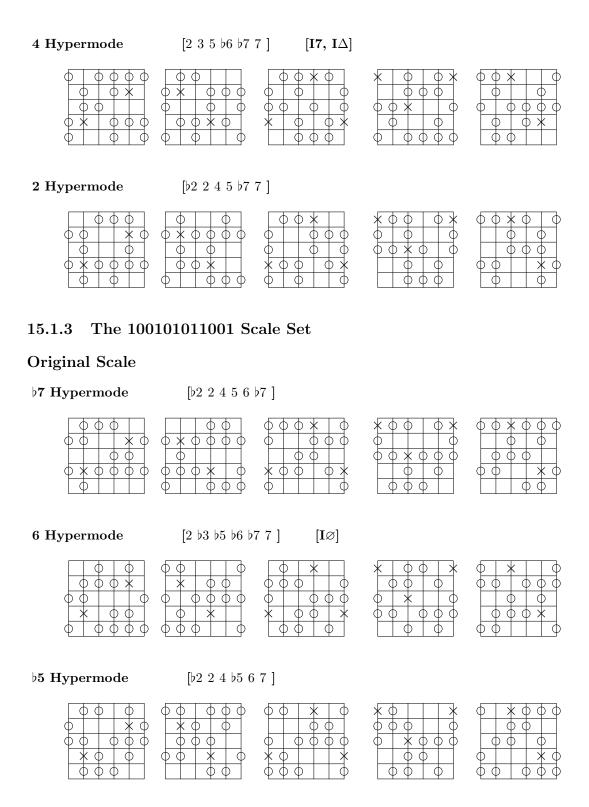


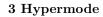
5 Hypermode

[b2 b3 b5 5 6 b7]

[Im7]







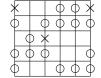
[b2 b3 3 5 b6 7]

 $[\mathbf{I}\Delta]$











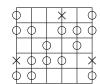
2 Hypermode

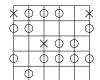
[b2 b3 4 b5 6 b7]

 $[\mathbf{I}\varnothing]$











2 Hypermode

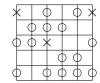
[2 3 \(\beta 5 \) 5 7 7]

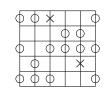
[I7, I Δ]











Coscale

7 Hypermode

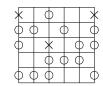
[b2 2 3 b5 6 b7]

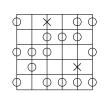
[I7]











♭7 Hypermode

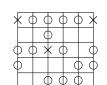
[2 \(\beta \) 4 5 \(\beta \) 7 7]

[Im7, Im Δ]

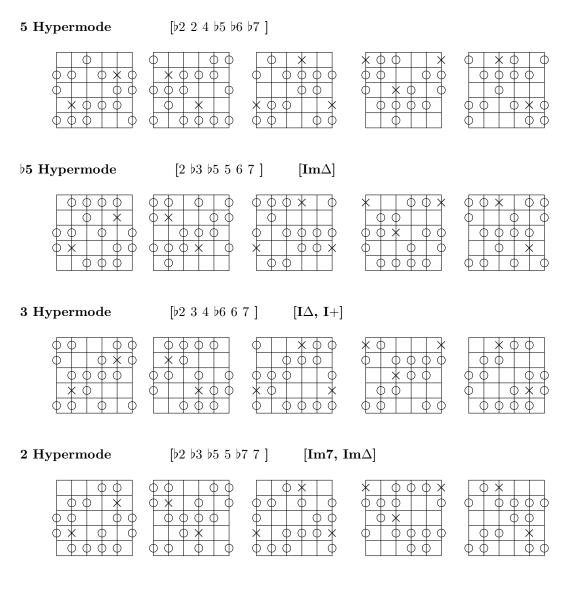




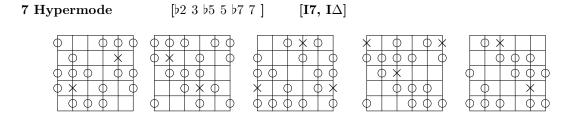








15.1.4 The 100101100110 Scale Set



ΦΦ

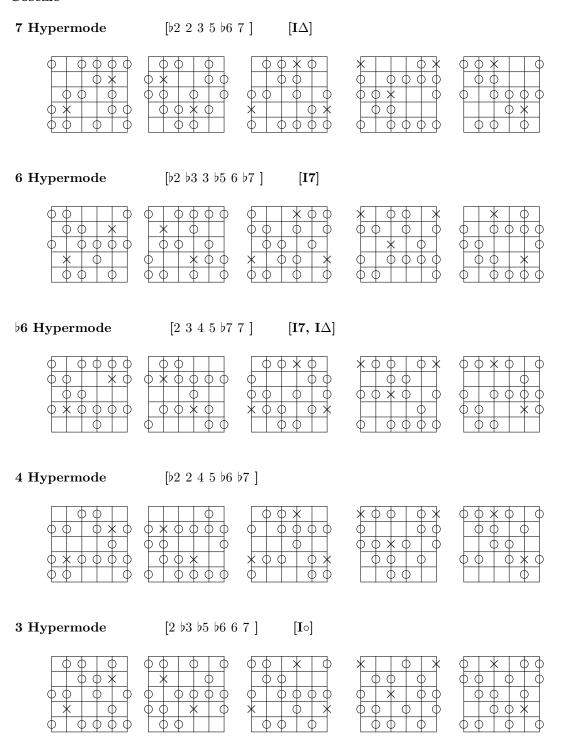
6 Hypermode [b2 2 3 5 6 b7] [I7]000 5 Hypermode [2 \(\beta \) 4 \(\beta 6 \(\beta 7 \)] $\phi \phi \star \phi$ φ $\overline{\phi}$ 3 Hypermode [b2 2 4 b5 b6 7] Ф ффф ФФФ $\overline{\phi}$ Ф ФФ 2 Hypermode [b2 b3 3 5 b6 b7] [I7] $\overline{\phi}$ $\phi *$ $\phi \phi \phi$ $\phi \phi *$ φφφ **½** Hypermode [2 3 4 \(\beta \) 6 6 7] $[\mathbf{I}\Delta,\ \mathbf{I}+]$

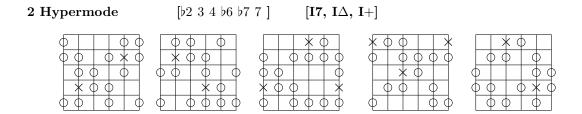
ффф

 $\times \phi \phi \phi$

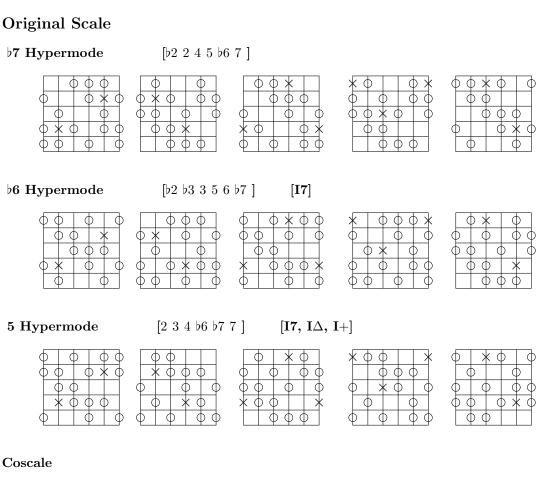
 $\overline{\Phi}$

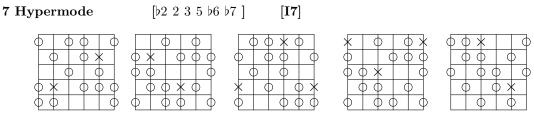
Coscale

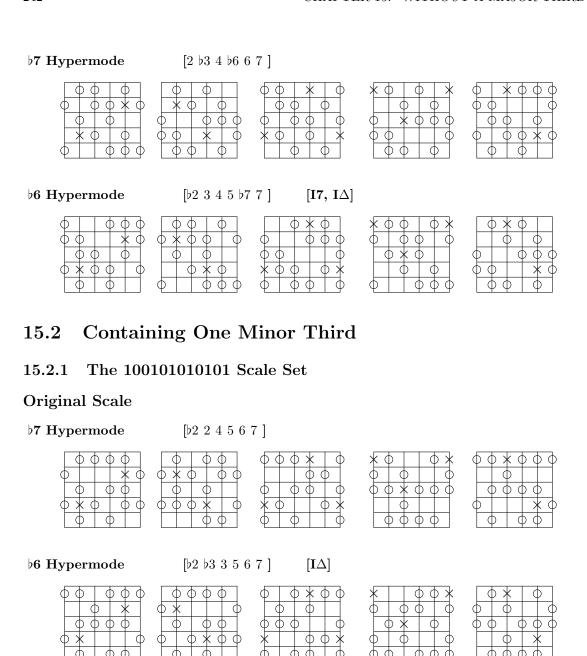


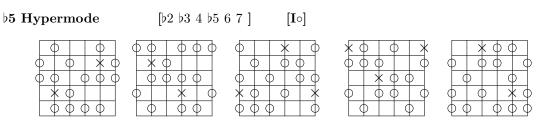


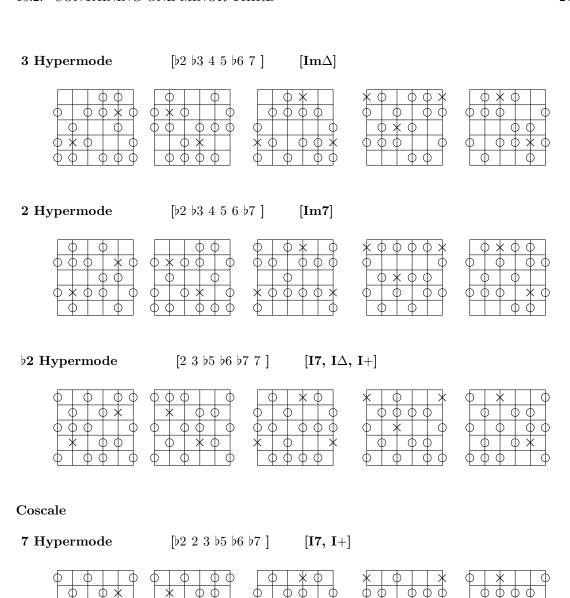
15.1.5 The 100101100101 Scale Set

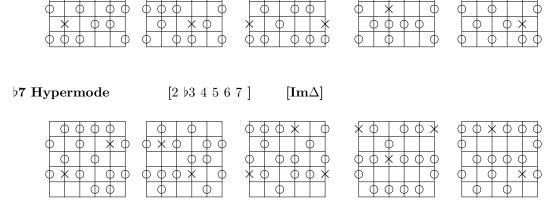


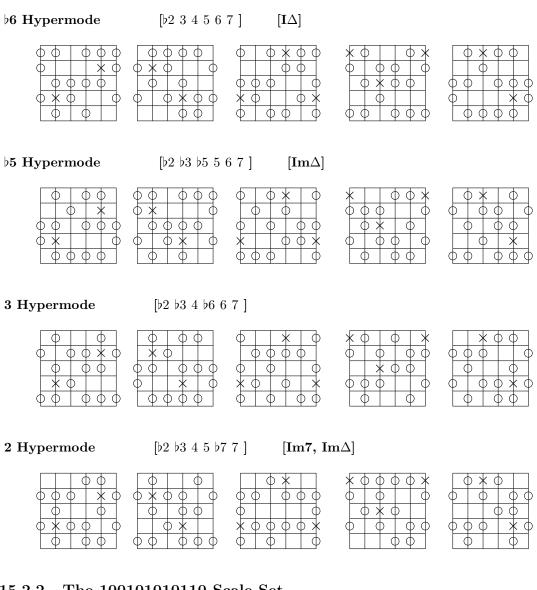






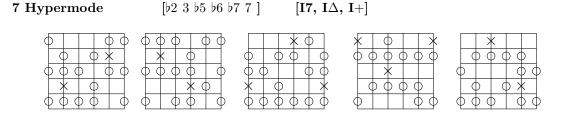


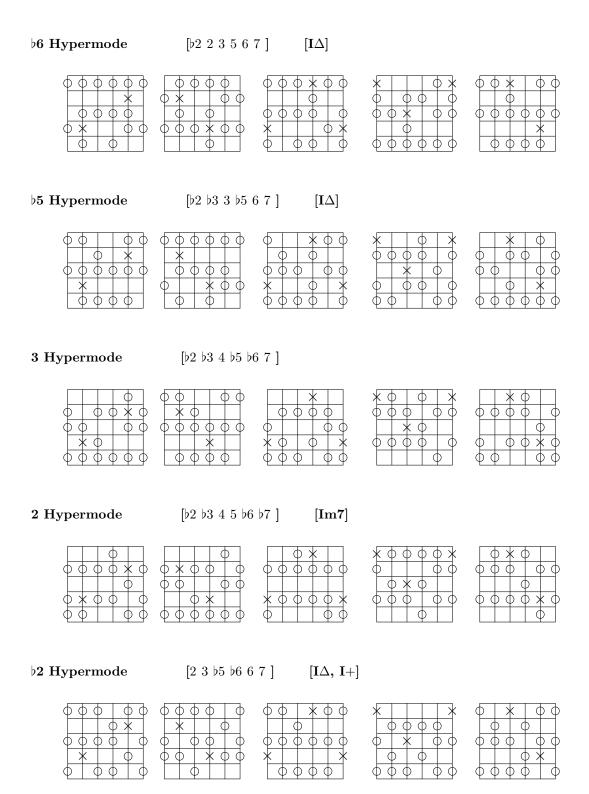




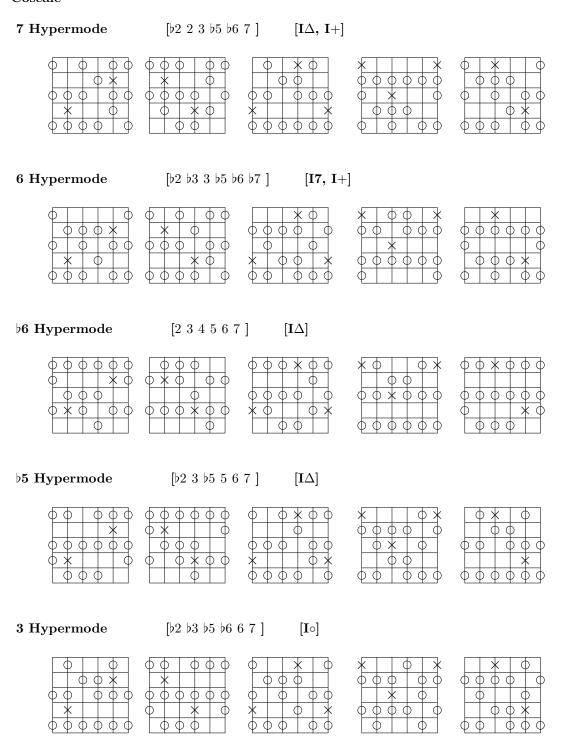
15.2.2The 100101010110 Scale Set

Original Scale

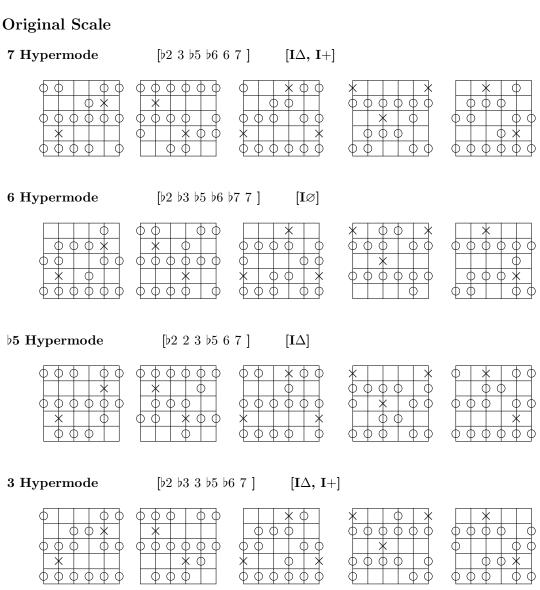


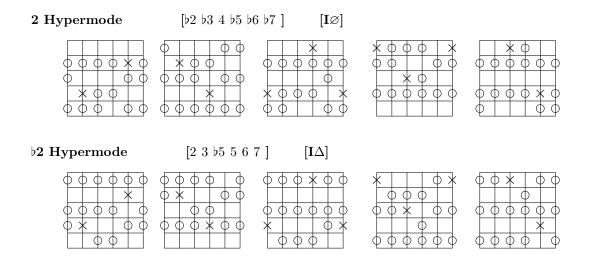


Coscale



2 Hypermode [b2 b3 4 b6 b7 7] фФ φφφ Ф фф The 100101011010 Scale Set 15.2.3





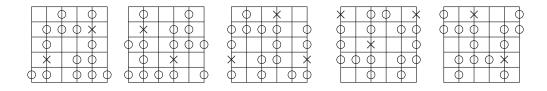
With a Large Interval

16.1 The 100001011011 Scale

Original Scale

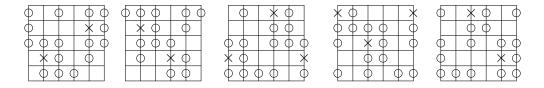
6 Hypermode

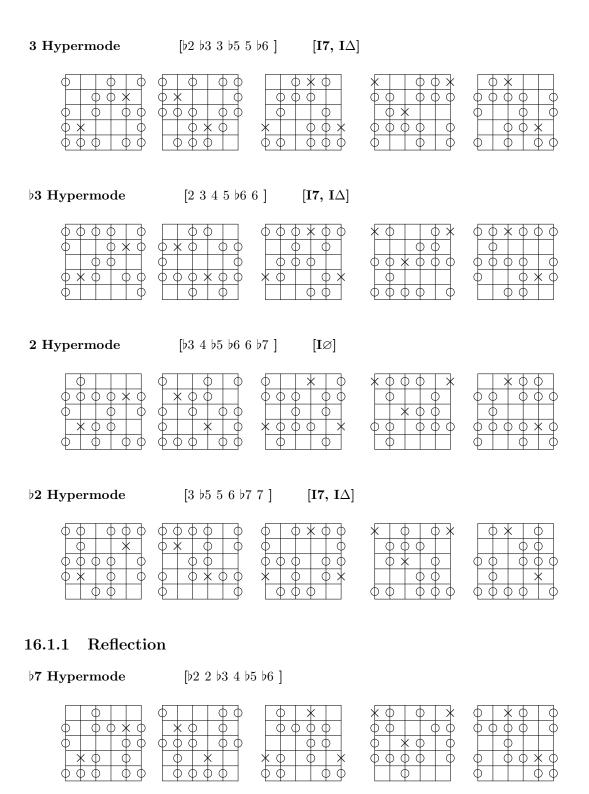
[b2 2 b3 b6 b7 7]

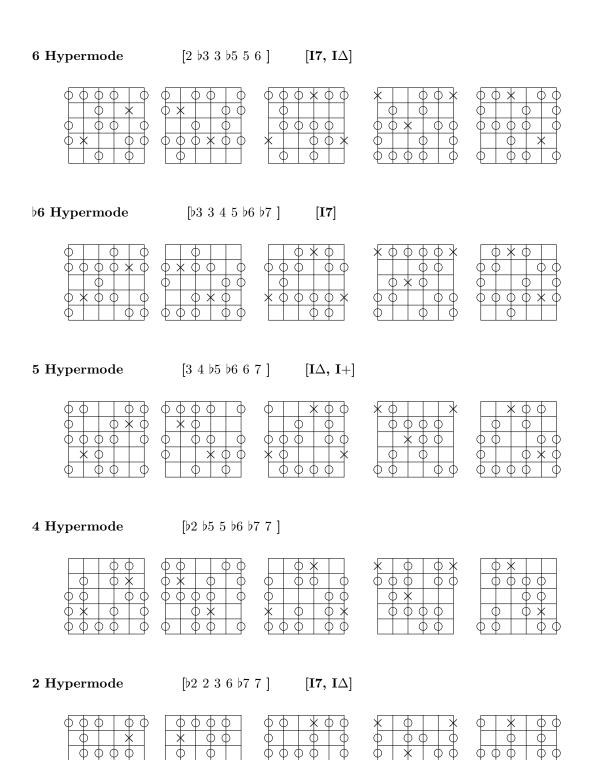


 $\flat 5$ Hypermode

 $[b2 \ 2 \ 3 \ 4 \ b5 \ 7 \]$ $[I\Delta]$



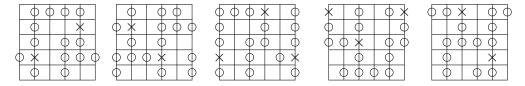




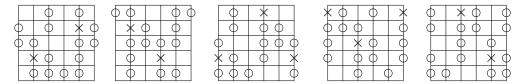
16.2 The 100001011101 Scale

Original Scale

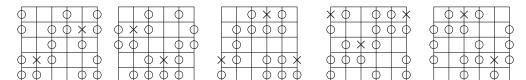




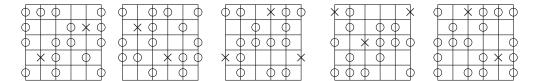
b5 Hypermode [b2 2 b3 4 b5 7]



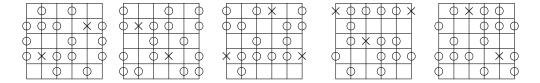
3 Hypermode $[\flat 2 \ \flat 3 \ 3 \ 4 \ 5 \ \flat 6 \]$ $[\mathbf{I7}, \ \mathbf{I}\Delta]$



b3 Hypermode [2 3 4 b5 b6 6] [I+]



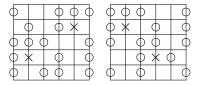
2 Hypermode [\(\partial 3 \) 4 \(\partial 5 \) 5 \(6 \) \(\partial 7 \)] [Im7]



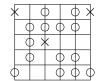
2 Hypermode

[3 \(b5 \) 5 \(b6 \) b7 \(7 \)]

 $[\mathbf{I7},\ \mathbf{I}\Delta]$









16.2.1 Reflection

♭7 Hypermode

[b2 2 3 4 b5 b6]

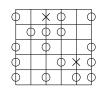
[I+]











6 Hypermode

[2 \(\beta \) 4 \(\beta \) 5 5 6]

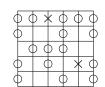
[Im7, Im Δ]











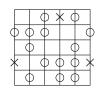
6 Hypermode

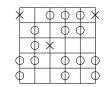
[b3 3 b5 5 b6 b7]

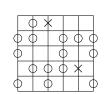
[I7]











5 Hypermode

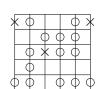
 $[3\ 4\ 5\ b6\ 6\ 7\]$

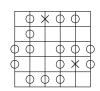
 $[\mathbf{I}\Delta]$

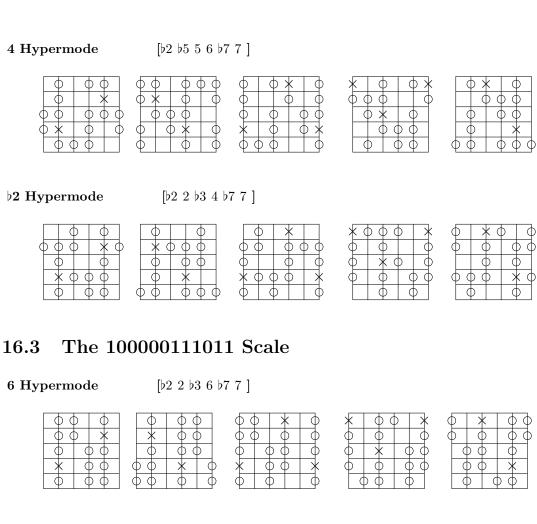


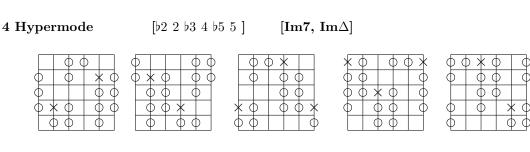


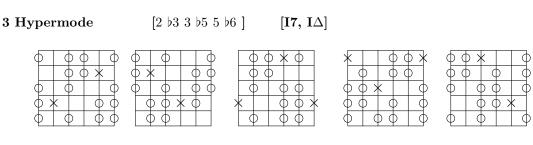


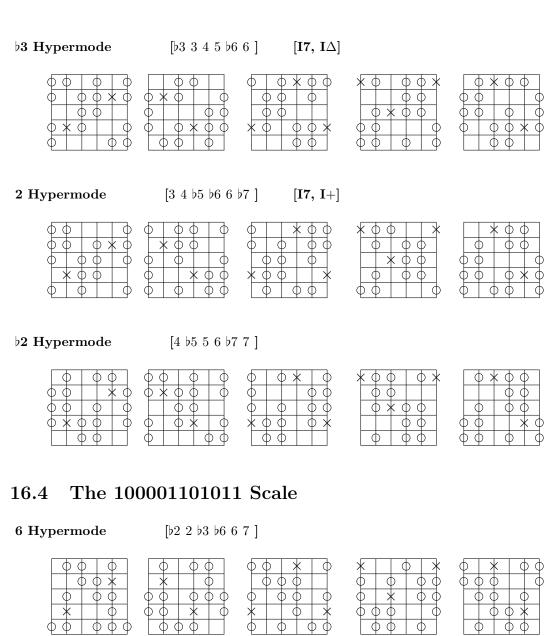


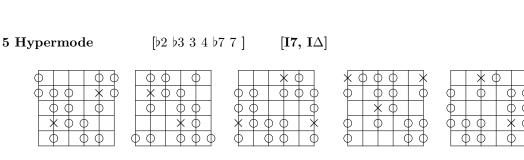


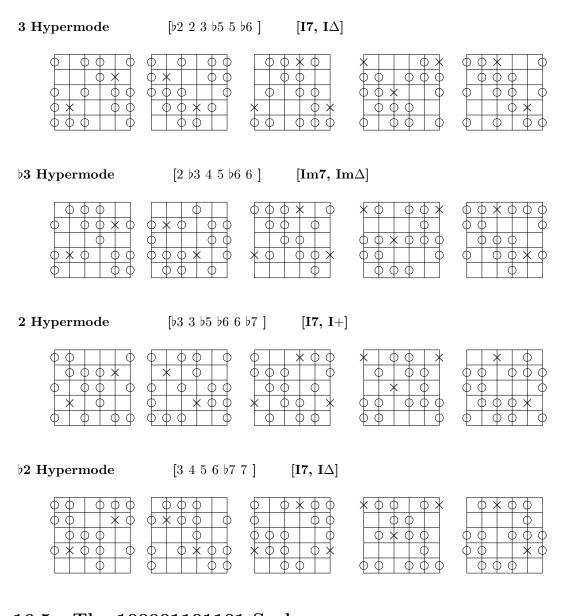




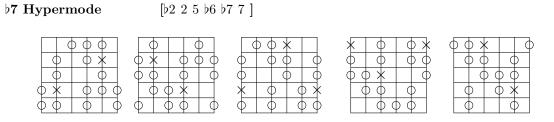




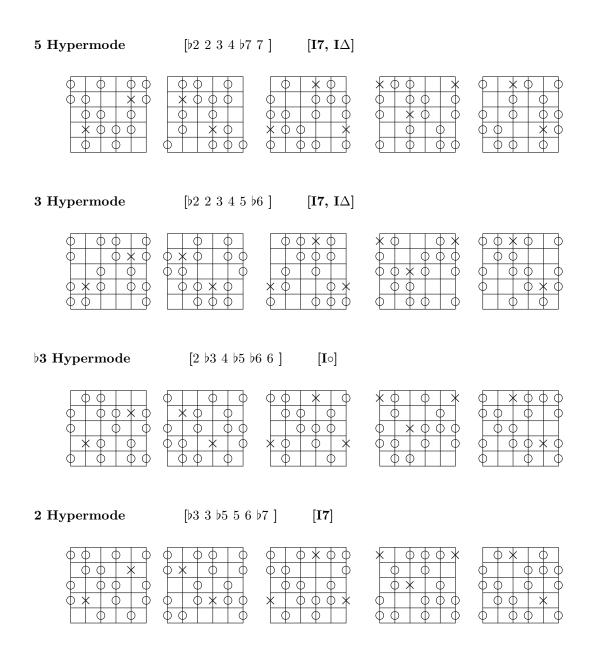




16.5 The 100001101101 Scale



½ Hypermode



 $[3\ 4\ 5\ b6\ b7\ 7\]$

[I7, I Δ]

 $\phi \phi \phi$

 $* \overline{\Phi}$

16.6 The 100001110011 Scale

ΦΦ

фф

6 Hypermode [b2 2 b3 b6 6 b7] ФФ фф Φ Φ Φ 6 Hypermode [2 \(\beta \) 3 3 6 \(\beta \) 7 7] [I7, I Δ] фф ФФ фф ФФ $\Phi \Phi \Phi$ 3 Hypermode [b2 2 b3 b5 5 b6] [Im7, Im Δ] $\overline{\phi}$ $\overline{\Phi}$ ф **♭3** Hypermode [2 \(\beta \) 3 3 5 \(\beta \) 6 6] [I7, I Δ] фф 2 Hypermode [b3 3 4 b6 6 b7] [**I7**, **I**+]

b**2 Hypermode** [3 4 b5 6 b7 7] [I7, I Δ]

